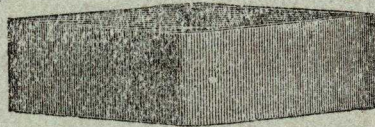
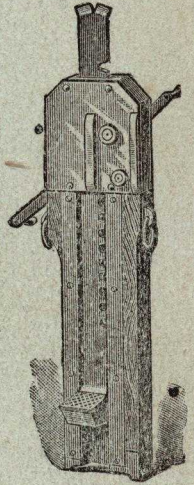
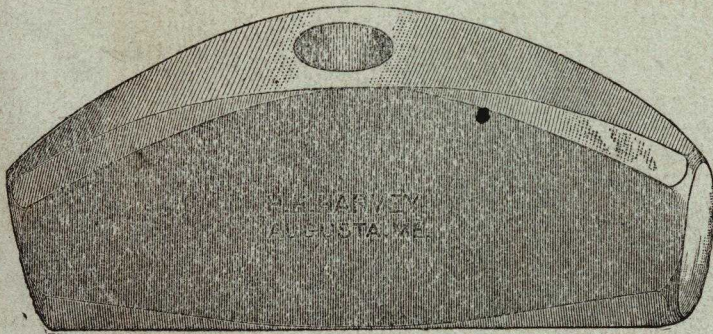


H. H. HARVEY'S

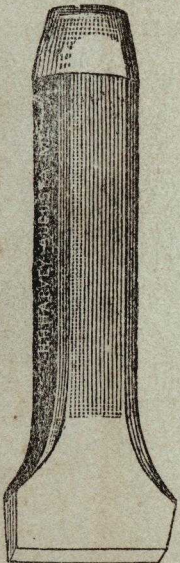
SPECIAL ILLUSTRATED CATALOGUE FOR 1896.

GRANITE, MARBLE AND SOFT STONE WORKERS', BLACKSMITH'S AND CONTRACTOR'S
HAMMERS & TOOLS.

Manufactured by him at Augusta, Maine.



WHOLESALE & RETAIL.



Address all Correspondence to our Boston Office and Salesroom
105 & 107 High & 218 Congress St., Boston Mass.
U. S. A.

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As there are many important changes in this from the old Catalogue, it is very essential that all the old books be destroyed, and that orders be made up from this one only.

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All sales are made for cash (unless otherwise stipulated), and bills become due at date of shipment. When payment is not made as per agreement we consider ourselves at liberty to make sight draft for the amount.

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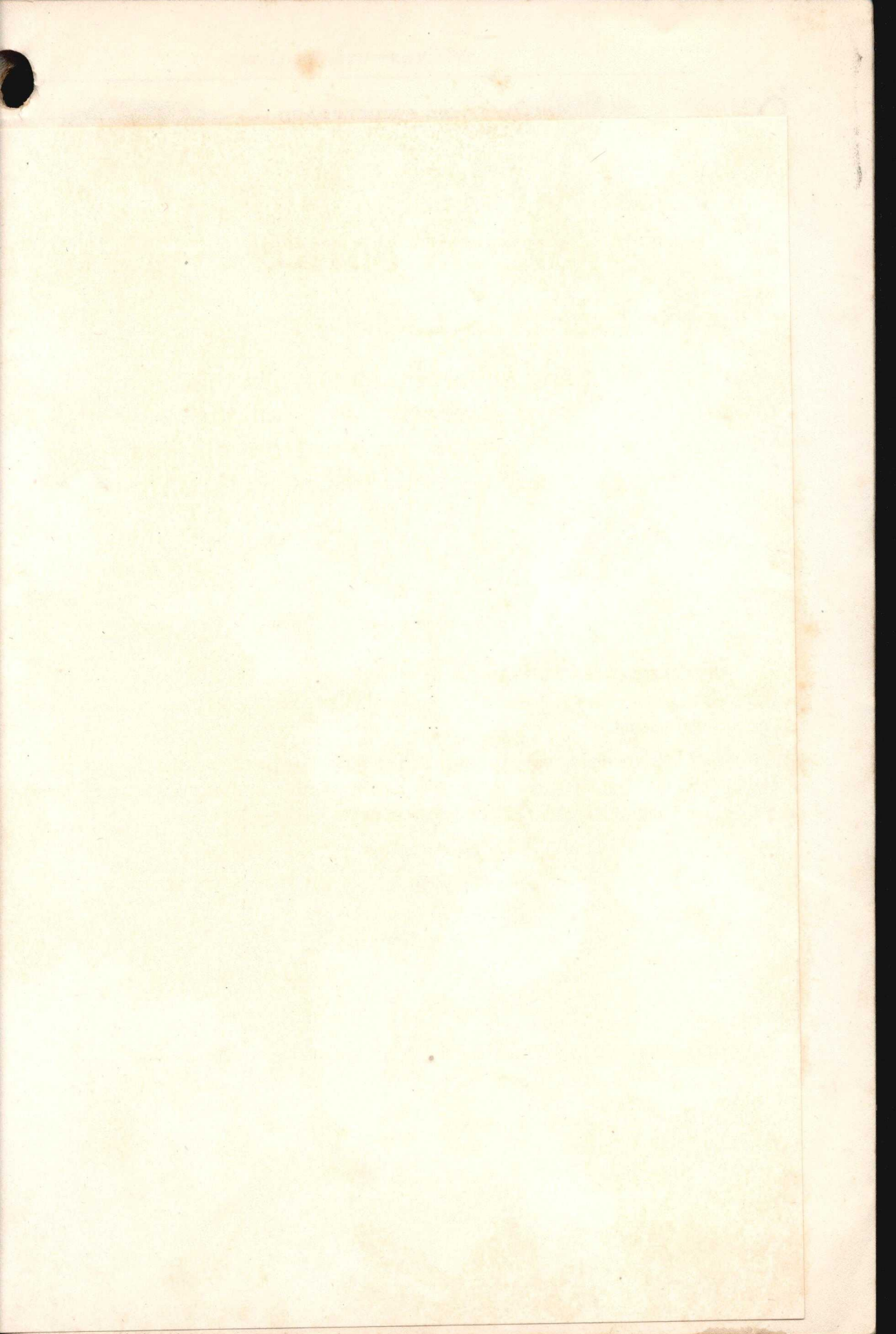
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In case of errors in putting up goods, the same must be reported by the consignee on receipt of consignment.

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H. H. HARVEY'S

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❖ CATALOGUE ❖

AND

PRICE LIST

FOR.....1893.....OF

*Stone-Cutters', Quarrymen's, Miners', Railroad, Grist Mill,
Coopers', Blacksmiths', and Slaters'*

HAMMERS, SLEDGES, TOOLS, AND OUTFITS.

ALSO,

Contractors' Supplies, Handles, Steel, Iron, Etc., Etc.

OFFICE AND SALESROOM:—

105 & 107 High & 218 Congress Sts., Boston, Mass.

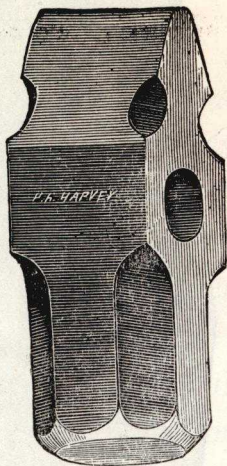
ESTABLISHED IN 1865.

FACTORY AT AUGUSTA, ME.

We carry a stock of 75 to 100 tons of Hammers and Tools, ready for shipment

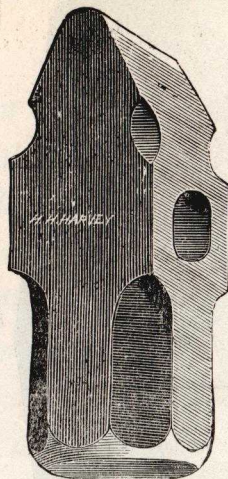
at short notice. Wholesale and Retail.

Fig. 5.



BLACKSMITHS' SLEDGE,
STRAIGHT PEAN.

Fig. 6.



BLACKSMITHS' SLEDGE,
CROSS PEAN.

Made from solid crucible cast steel.

From 6 lbs. upward, 14 cts. per lb.

From 5 lbs. to 5 $\frac{3}{4}$ lbs., 16 cts. per lb.

XX or Competition Hammers made from solid best hammer steel, 2 cts. per lb. less list.

All the above hammers have polished faces and true eyes.

Fig. 7.

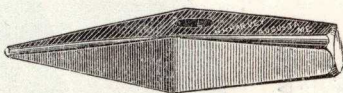
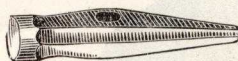


Fig. 8.



SHIPBUILDERS' AND RAILROAD TOP MAULS.

Made from solid crucible cast steel.

Fig. 7, from 6 lbs. upward, 12 cts. per lb.

Fig. 8, from 6 lbs. upward, 20 cts. per lb.

" " 5 lbs. to 5 $\frac{3}{4}$ lbs., 14 " "

" " 5 lbs. to 5 $\frac{3}{4}$ lbs., 22 " "

" " 4 lbs. to 4 $\frac{3}{4}$ lbs., 16 " "

" " 4 lbs. to 4 $\frac{3}{4}$ lbs., 24 " "

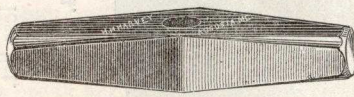
XX or Competition Hammers made from solid best hammer steel, 2 cts. per lb. less list.

Fig. 9.



MACADAMIZING HAMMER.

Fig. 10.



COAL SLEDGE.

Made from solid crucible cast steel.

Figs. 9 and 10, 6 lbs. upward, per doz., 12 cts. per lb.

" " 5 lbs. to 5 $\frac{3}{4}$ lbs., " 14 " "

" " 4 lbs. to 4 $\frac{3}{4}$ lbs., " 16 " "

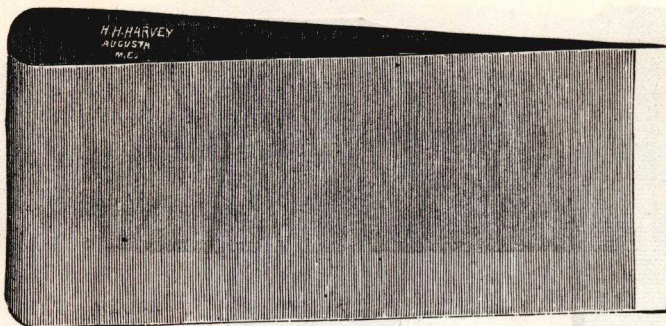
" " 3 lbs. to 3 $\frac{3}{4}$ lbs., " 18 " "

XX or Competition Hammers made from solid best hammer steel, 2 cts. per lb. less list.

STEEL COAL WEDGES
RAILROAD SPIKES

Discount on fig—

Fig. 10¼.

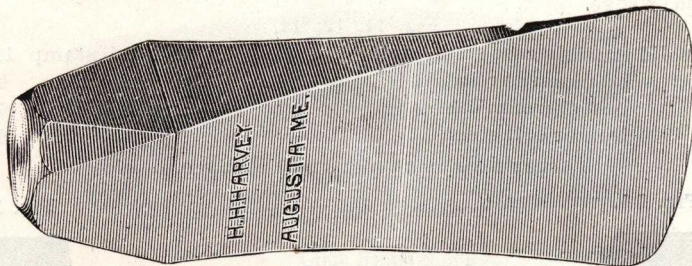


CALIFORNIA SAW SCARF WEDGE.

Made from solid best crucible cast steel.

Common sizes, 12 in. to 20 in. long, 3 in. to 6 in. wide, 1½ in. to 2 in. thick,	16	cts. per lb.
Made from smaller or medium size stock, same shape	18	" "
Eastern Saw, Scarf Wedge, made from same quality of stock, 3 in. to 6 in. long, 2 in. to 4 in. wide, ¾ in. to 1 in. thick	24	" "

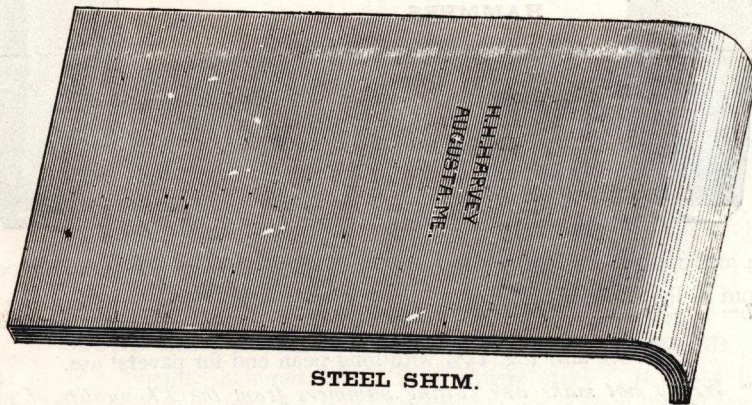
Fig. 10½.



CALIFORNIA WOOD SPLITTING WEDGE, AXE SHAPE.

Made from same stock as Fig. 10¼, 3 lbs. upward, with polished blades . 16 cts. per lb.

Fig. 10¾.



STEEL SHIM.

Soft Steel Shim, used with Large Wedges (Fig. 11) to lift heavy blocks of granite from their beds.

Common sizes, 2½ in. to 4 in. wide, 6 in. to 10 in. long, ¼ in. to ½ in. thick. 8 cts. per lb.

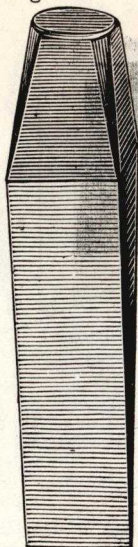
**WEDGE & SHIM STEEL ALSO
NORWAY IRON.**

Discount on figs. _____

**STEEL FROST WEDGES OF ALL SIZES.
WEDGES FOR ALL PURPOSES.**

ALL SIZES OF STEEL FROST WEDGES. PAVERS' HAMMERS & TOOLS, WALL WEDGES.

Fig. 11.



Wood Wedge.

Fig. 12.

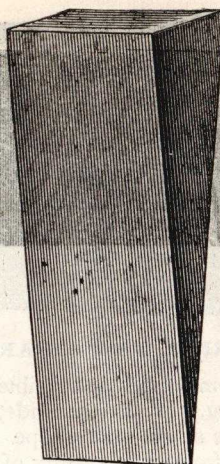
Beetle Head
Wood Wedge.

Fig. 13.



Coal Wedge.

Fig. 11, 12, 13,

Made from solid crucible cast steel, from 2 lbs. to 10 lbs., full stamp 11 cts. per lb.									
"	"	best hammer cast steel,	"	"	"	"	HHH	9	"
"	"	best German cast steel,	"	"	"	"	XX	7	"
"	"	iron or soft steel,	"	"	"	"	no	6	"

Larger sizes made at a small advance in price.

Fig. 14.

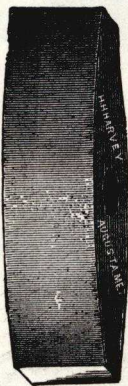


Fig. 15.



STONECUTTERS' AND QUARRY- MEN'S FACE OR BREAKING HAMMERS.

Also suitable for breaking iron and
copper ore, quartz rock, &c.

Figs. 14 and 15 are made from the very best flat solid crucible granite tool steel.

From 6 lbs. upward	15 cts. per lb.
" 5 to 5½ lbs.	18 " "

See also Fig. 15½ with long pean end for pavers' use.

We do not make any cutting hammers from the XX quality of steel.

Our Hammers will stay sharp much longer than the hammers sold so cheaply by the hardware trade generally.

QUARRY BARS ALL SIZES.

WEDGES FOR ALL PURPOSES.

Discount on figs.

Fig. 15½.

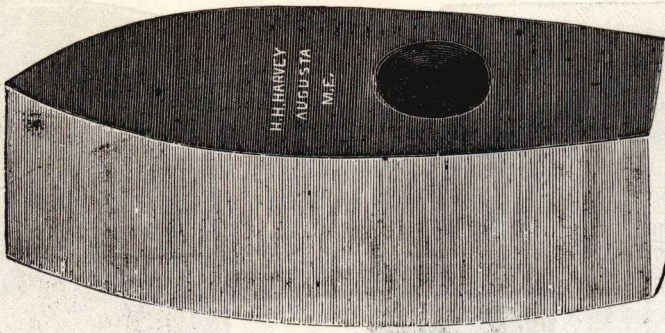
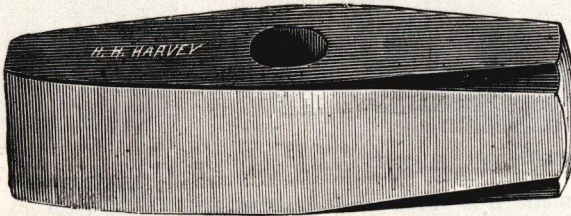
**PAVERS' BOXING HAMMER.**

Fig. 15½ has a long, blunt pean end and flat face, with the eye nearer the face end than Fig. 15. The cut is a very good representation of the hammer. These hammers are made from the very best flat solid crucible granite tool steel, *expressly for paving cutters' use.* See also Figs. 17, 17½, 18, 19, 19½.

From 6 lbs. and upward 15 cts. per lb.

We can make the pean end thinner and sharper if desired.

Fig. 16.

**Lime Stone Sledge.**

Common weight of Fig. 16 about 16 to 18 lbs. The eye is nearly round, about 1 in. diameter, made smaller so that the handle will spring. The cut is a good representation. We can make them to any pattern desired 18 cts. per lb.

Fig. 16 has a full face and nearly flat pean.

Fig. 17.

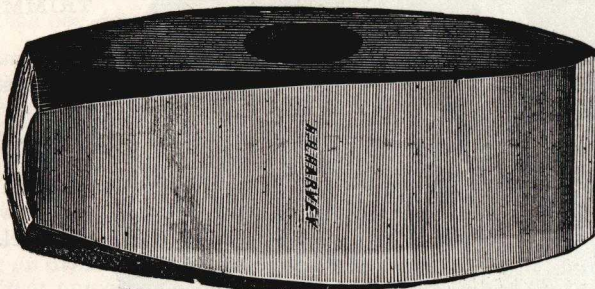
**STONE SLEDGE OR PAVERS' BURSTING HAMMER.**

Fig. 17 is a bursting hammer, made from square steel. It has a full face and long blunt pean end, and used for breaking paving blocks from thin sheets of granite, and is also suitable for breaking iron or copper ore, quartz, &c., as also are Figs. 17½ and 18 18 cts. per lb.

The above sledges are made from best solid square crucible granite tool steel.

These Hammers will stay sharp Twice the length of time of those sold so cheaply by the hardware trade generally.

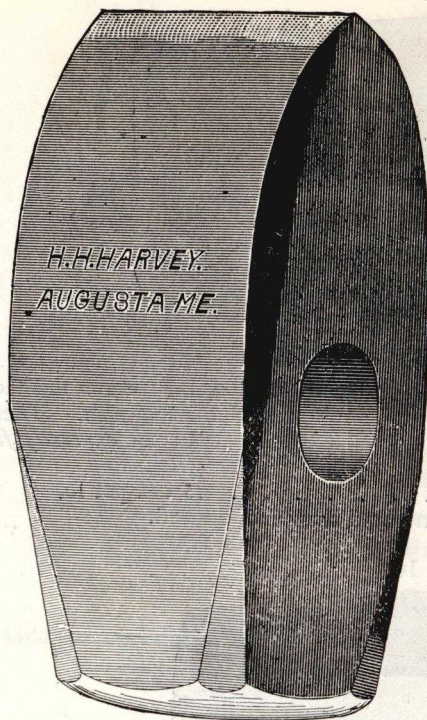
Liberal discount on large orders, send in specifications.

Discount on figs.

**WEDGE AND SHIM STEEL OF ALL SIZES.
ALSO WEDGES AND SHIMS.**

ALL SIZES OF CROW AND PINCH BARS.
Pavers' Wedges a Specialty, a Full Stock on Hand.

Fig. 17½.



PAVERS' SLEDGE FOR BURSTING.

Fig. 18.

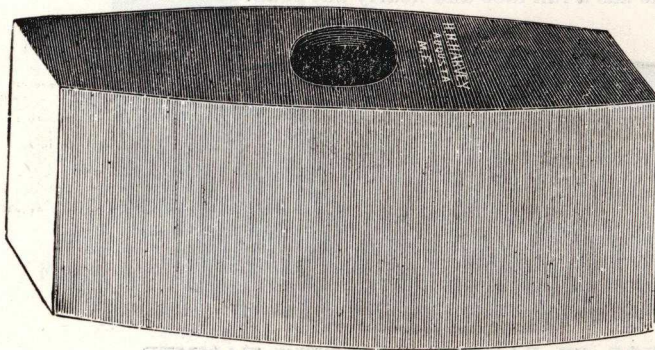


PAVERS' BURSTING HAMMER.

Fig. 17½ is made from best solid crucible granite tool steel, face end like Fig. 17, and the pean end like Fig. 15 15 cts. per lb.

Fig. 18 is made from best solid crucible flat granite tool steel. The pean end is the heaviest. It has a full face. We call it the best pavers' bursting hammer in use. See also Figs. 15½, 17, and 17½ 15 cts. per lb.

Fig. 18½.



PAVERS' SIDE OR ENGLISH BLOCKMAKERS' TRIMMING HAMMER.

We make them from the very best FLAT or SQUARE solid granite tool steel. We carry a stock of both kinds. Name on your order which to send. The cut shows one made from flat steel.

From 6 lbs. upward, common length, 5 in. to 6 in.	15 cts. per lb.
" 5 lbs. to 5¼ lbs., " " "	17 " "
" 4 lbs. to 4¾ lbs., " " "	19 " "

Special prices made on large lots of paving hammers.

These hammers will stay sharp twice the length of time of those sold so cheaply by the hardware trade generally.

Cannon Balls & Hardwood Rolls.

DRILLS OF ALL LENGTHS AND SIZES. Discount

Fig. 19.

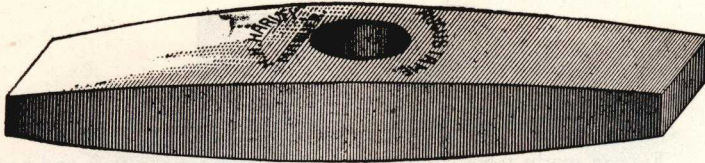
**PAVERS' REAL OR TRIMMING HAMMER.**

Fig. 19 is made from the very best solid granite tool steel. Common length about 10 in.

From 6 lbs. upward	18 cts. per lb.
" 5 lbs. to 5½ lbs.	20 " "
" 4 lbs. to 4½ lbs.	22 " "

Fig. 19½.

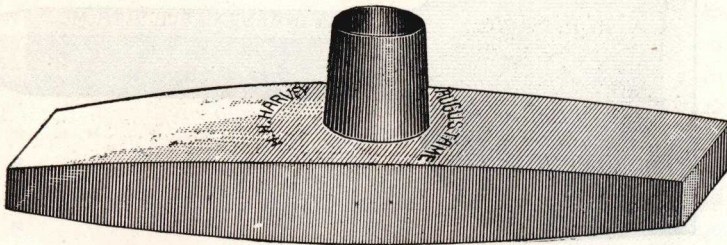
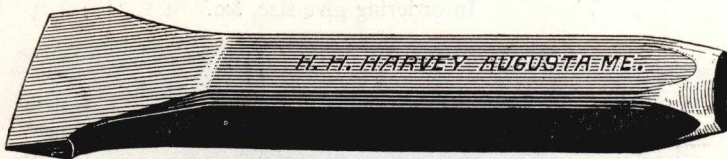
**PAVERS' SOCKET REAL HAMMER.**

Fig. 19½ is made from same stock as Fig. 19, at 10 cts. per lb. more in price.

Fig. 19¼.

**LINE TRACER.**

Made from best crucible granite tool steel, ⅞ in., 1 in., 1½ in., or 1¾ in., any width blade.

Per dozen 13 cts. per lb.

When less than one dozen are ordered, the price will be from 30 cts. to 40 cts. each.

Fig. 20.

**Farmers' Sledge for Wood Splitting.**

Farmers' sledge is made from very best square solid crucible cast steel, and has a flat face for striking on drills or wedges etc., and a long pean end for clefting wood after wedging open. Fig. 20 or any other hammer is not warranted when used to strike the face of another.

From 6 lbs. upward 12 cts. per lb. From 5 lbs. to 5½ lbs. 14 cts per lb.

Fig. 21, or masons' pinning hammer, made from solid crucible cast steel.

From 5 lbs. to 5½ lbs. . 17 cts. per lb. From 4 lbs. to 4½ lbs. . 19 cts. per lb.

" 3 " 3½ " . 21 " " " 2 " 2½ " . 23 " " "

XX quality of fig. 20 list at 2c per lb less. We do not make the XX quality in fig. 21.

Fig. 21.

**Masons' Pinning Hammer.**

WIRE & MANILLA ROPE.

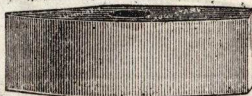
At Wholesale Prices Shipped from Mill.

Discount on figs.

Refined Iron, - Special Steel for Granite Tools.
NORWAY IRON A SPECIALTY, STRAP IRON.

QUARRY BARS, ALL SIZES, also CONTRACTORS' SUPPLIES.
Soft Stone Tools of All Kinds, - Staging Chisels.

Fig. 22.

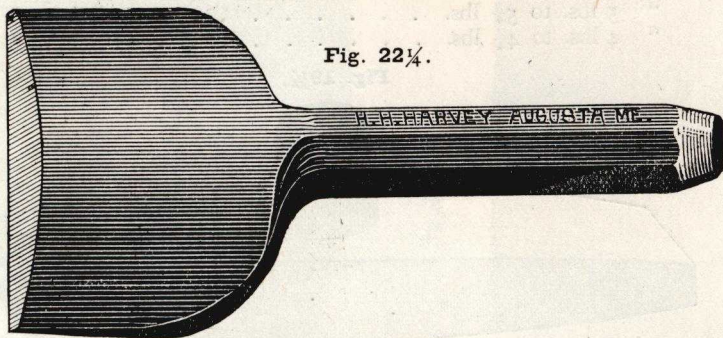


SANDSTONE HAMMER.

Fig. 22 made from solid crucible cast steel, made thin and wide.

From 6 lbs. upward	20 cts. per lb.
" 5 lbs. to 5 1/4 lbs.	22 " "
" 4 lbs. to 4 3/4 lbs.	24 " "

Fig. 22 1/4.



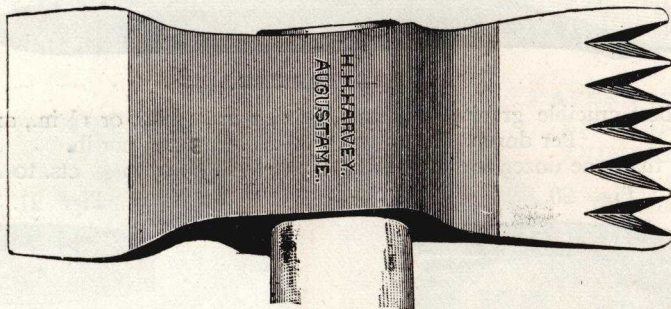
BRICK SET OR CUTTING TOOL (Thin or Bevelled as desired).

Made from best granite tool solid steel, from 5 in. to 6 in. long, blade 2 1/2 in. to 3 in. wide.

Diameter of steel, 5/8 in. or 3/4 in.	\$ 6.60 per dozen.
" " 7/8 in., 1 in.	7.20 "

In ordering give size, &c.

Fig. 22 1/2.



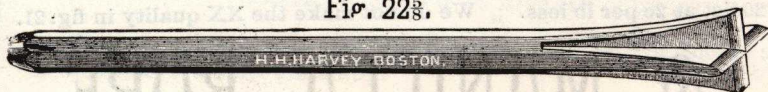
PATENT BRICK CLEANER.

Made from best crucible granite tool steel, weight from 1 1/2 lbs. to 2 1/2 lbs. . \$.80 each.
 Best tool made for the purpose.

BRICK MASONS' STAR DRILL.

For drilling round holes in Brick or Stone. It is the best tool in the market for that purpose.

Fig. 22 5/8.



Size Steel, 3/8, 1/2, or 9-16	Length,	12 in.	18 in.	24 in.	30 in.	36 in.
3/8		55c	65c	80c	95c	1.05
1/2		65	75	90	1.05	1.20
5/8		75	85	1.00	1.15	1.30
3/4		90	1.05	1.20	1.35	1.50
7/8		1.15	1.30	1.45	1.60	1.75
1						

Discount _____

Fig. 22 $\frac{3}{4}$.



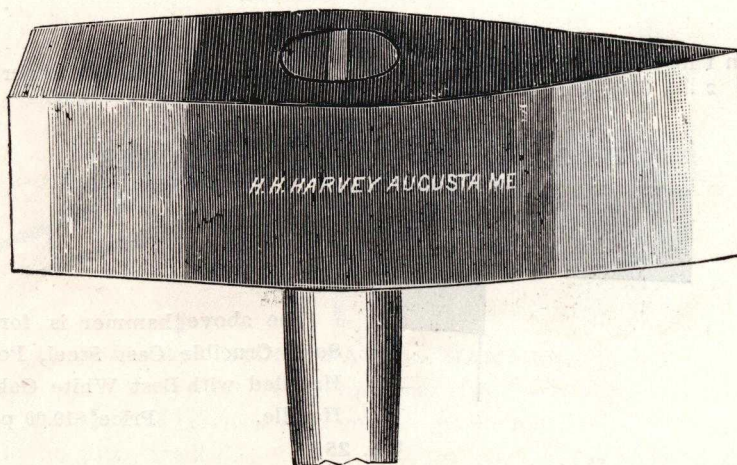
BRICK JOINTER ON JOINT FORMER.

Made from best granite tool solid steel.

Convex, square, round, or V-shape, polished,	$\frac{1}{4}$ in.	.	.	.	.	.	.	\$5.52 per dozen.
“ “ “ “ “	$\frac{5}{16}$ in.	.	.	.	.	.	.	6.00 “
“ “ “ “ “	$\frac{3}{8}$ in.	.	.	.	.	.	.	6.50 “
“ “ “ “ “	$\frac{7}{16}$ in.	.	.	.	.	.	.	7.00 “
“ “ “ “ “	$\frac{1}{2}$ in.	.	.	.	.	.	.	7.50 “
Concave, “ “ “ “ “	$\frac{1}{4}$ in.	.	.	.	.	.	.	10.00 “
“ “ “ “ “	$\frac{5}{16}$ in.	.	.	.	.	.	.	10.50 “
“ “ “ “ “	$\frac{3}{8}$ in.	.	.	.	.	.	.	11.00 “
“ “ “ “ “	$\frac{7}{16}$ in.	.	.	.	.	.	.	11.50 “
“ “ “ “ “	$\frac{1}{2}$ in.	.	.	.	.	.	.	12.00 “

In ordering, give full particulars.

Fig. 23.



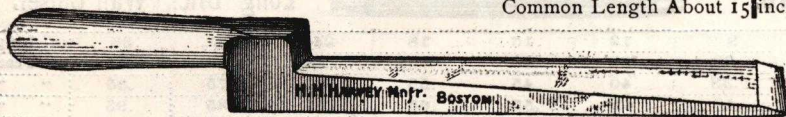
COMMON BRICK HAMMER.

Made of solid crucible cast steel.

[illegible]

We polish Fig. 23 all over when desired at \$1.00 more per dozen on list.

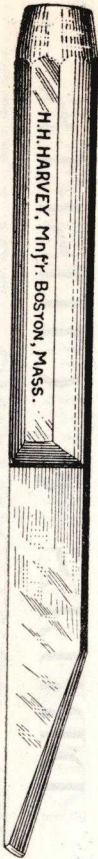
Fig. 23½. Masons' & Carpenters' Staging Ripper. Price \$2.00 each.
Common Length About 15 inches.



Discount

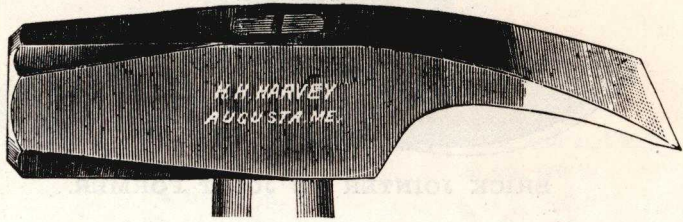
GRANITE POINTS, DRILLS & CHISELS.

STAR DRILLS FOR BRICK WALLS, - - WALL STEEL WEDGES ALL SIZES



Common Size, #12 steel, 1 in. dia.	Length, 1 to 15 in.	PAVEMENT or BRICK WALL JOINT CHISEL.	
		Size point 1/4 to 1/2 inch common sizes in stock.	Price, each. per doz. \$10.80 \$1.00

Fig. 24.

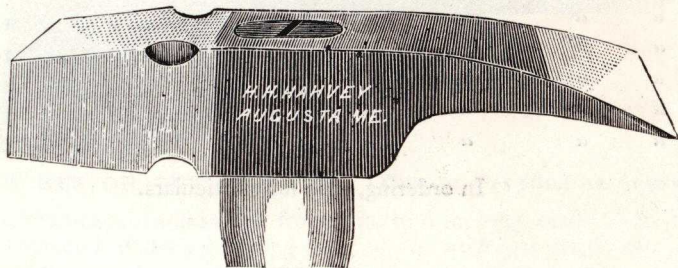


BRICK HAMMER.

Solid crucible granite tool steel.

From 1 lb. to 1 3/4 lbs., handled	\$ 7.20 per dozen.
" 2 lbs. to 3 lbs., "	9.00 "

Fig. 24 1/2.



BRICK HAMMER.

Solid crucible granite tool steel.

From 1 lb. to 1 1/2 lbs., handled	\$ 7.20 per dozen.
" 2 lbs. to 3 lbs., "	9.00 "

Fig. 24 3/4.

FULL SOCKET BRICK HAMMER.



The above hammer is forged from Solid Crucible (Cast Steel, Polished, also Handled with Best White Oak or Hickory Handle. Price \$10.00 per dozen.

Fig. 25.



BELGIAN STONE PAVING HAMMER.

Solid crucible cast steel.

From 1 lb. to 1 3/4 lbs., handled	\$ 9.00 per dozen.
" 2 lbs. to 3 lbs., "	10.20 "

Fig. 25 11-16.

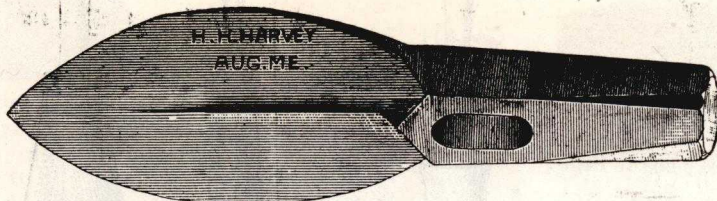


Long Brick Wall Chisel.

Length.	7 1/2	9	12	15	18	24	30	36	in. long.
Size steel 3/4	.25	.28	.33	.38	.45	.55	.65	.75	price each
" 7/8	.30	.33	.40	.45	.55	.65	.75	.85	" "
" 1 in.	.35	.40	.45	.55	.65	.75	.85	.95	" "
" 1 1/8	.42	.50	.55	.65	.75	.85	.95	1.05	" "

Discount on figs.

Fig. 25 1/4.

**WASHINGTON D. C. PATTERN PAVING HAMMER.**

Made from very best solid granite tool steel, common weight 4 lbs. to 5 lbs., \$21.00 per doz.
 Liberal discount for large orders for paving tools and rammers.

Fig. 25 1/4.

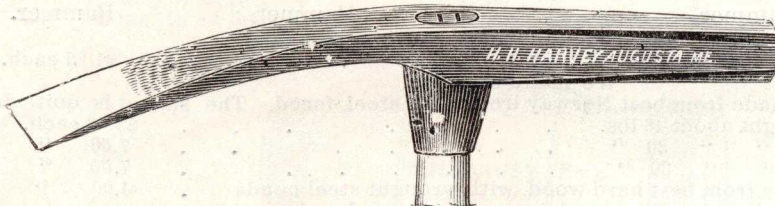
**BELGIAN STONE PAVING HAMMER.**

Made from solid crucible granite tool steel.

From 1 lb. to 1 1/2 lbs., handled \$14.00 per dozen.
 " 2 lbs. to 3 lbs., " 15.00 "

Fig. 25 1/4, with full socket, \$10.00 per dozen more.

Fig. 25 1/2.

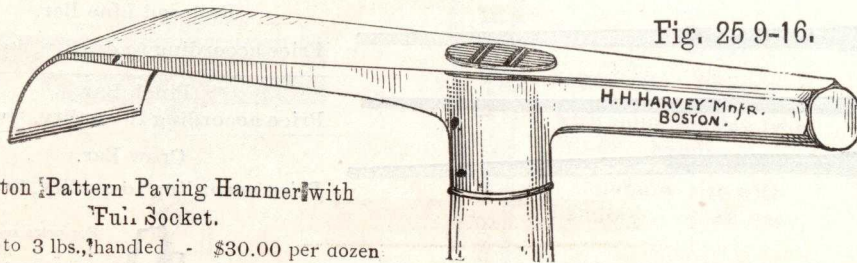
**BELGIAN STONE PAVING HAMMER,**

Full socket or Providence style.

Made from very best solid crucible granite tool steel.

From 2 1/2 lbs. to 3 lbs., handled \$27.00 per dozen.

Fig. 25 9-16.



Boston Pattern Paving Hammer with
 Full Socket.

From 2 1/2 to 3 lbs., handled . . . \$30.00 per dozen
 " 3 1/2 to 4 " . . . 33.00 " "

Discount on fig. _____

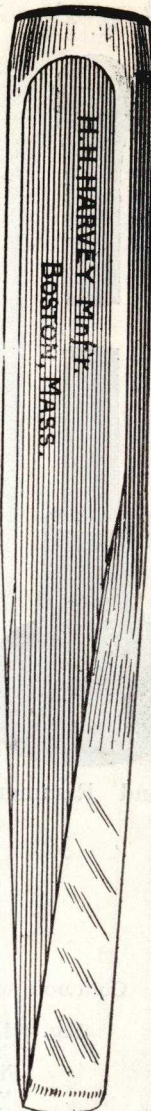


Fig. 25 3-16.

CAST STEEL PAVERS' OPENING WEDGE.
 Common lengths about 2 ft. size steel 1 1/2, octagon or quarter
 octagon. Weight 12 lbs. Price \$1.50 each, \$17.00 per dozen.
 Other sizes made to order.

Discount on fig. _____

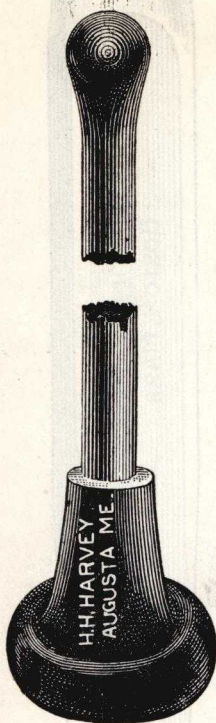
Fig. 25g.

Fig. 25 11-16.

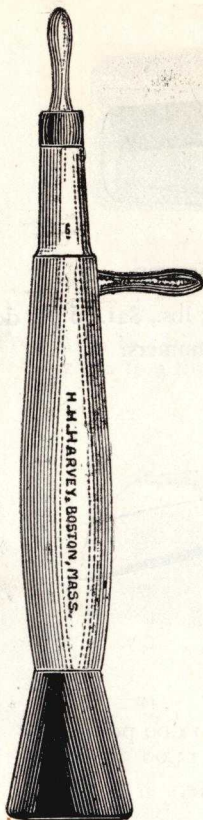
Fig. 25g.

Fig. 25 13-16.

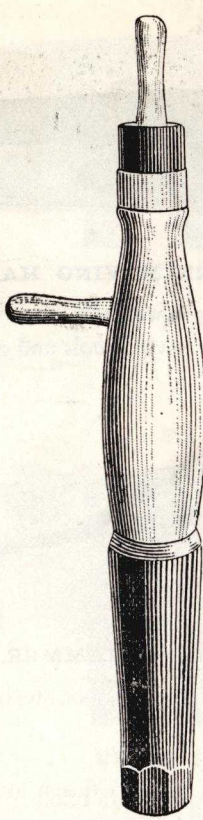
Fig. 25g.



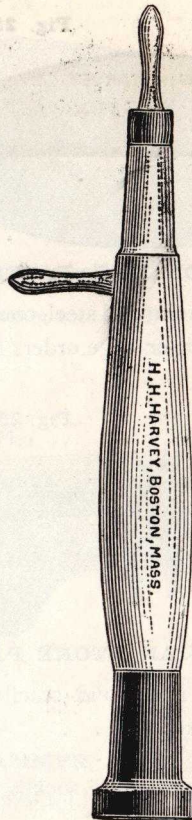
Sand Rammer.



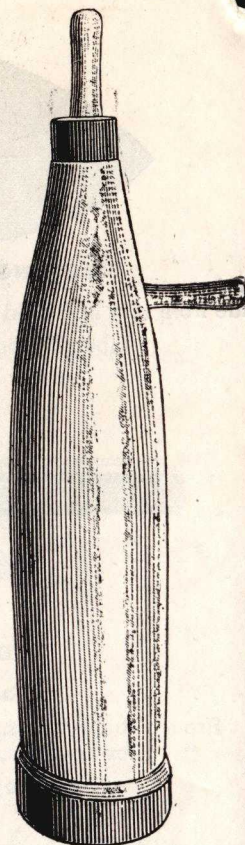
Taper Face
Wrought steel
Rammer.



Wrought
Steel Rammer.



Bell Faced
Wrought Steel
Rammer



Wooden Pavers'
Rammer.

Fig. 25g is made from gun metal, with wooden handle.
Common weight about 20 lbs.

\$1.25 each.

We make any size.
Fig. 25g socket is made from best Norway iron, cast steel faced. The socket is quite deep.
Common weight about 46 lbs.

Fig. 25 11-16	"	30	"	\$8.00 each.
" 25 13-16	"	30	"	7.50 "
" 25g	made from best hard wood, with wrought steel bands			4.00 "

Special sizes made to pattern or drawing.



Single End Tamping Bar

Price according to quality, See page 67



Double End Tamping Bar

Price according to quality, See page 67



Railroad Line Bar.

Price according to quality, See page 67



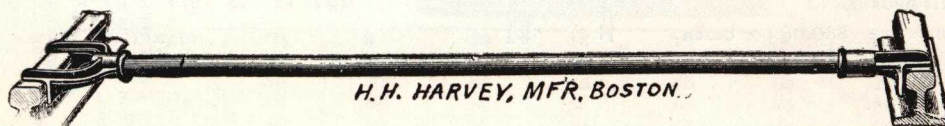
Pinch Bar.

Price according to quality, See page 67



Crow Bar.

Price according to quality, See page 67

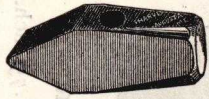


For price see page 26.

Railroad Track
Gauge all
Lengths.

Discount on figs.

Fig. 26.



BLACKSMITHS' HAND HAMMERS.

Fig. 27.

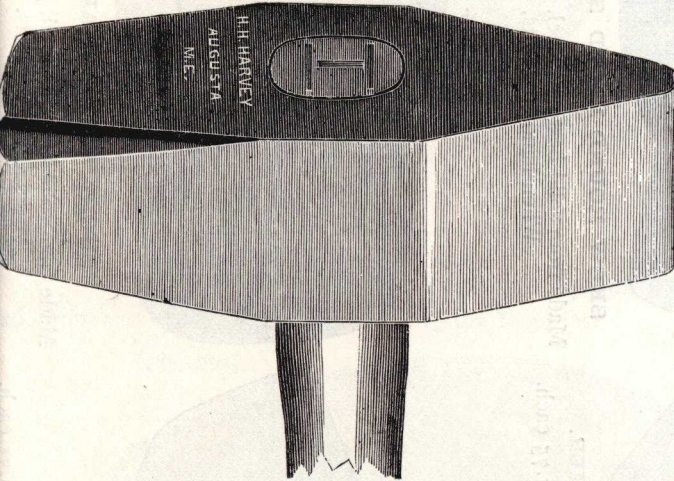


Fig. 26 and 27 are made from solid crucible cast steel, with polished faces and peans only.

From 4 lbs. upwards	per dozen	18 cts. per lb.	retail at 80c each.
" 3½ " to 3¾ "	"	20 " "	" 75c "
" 3 " to 3½ "	"	22 " "	" 70c "
" 2½ " to 2¾ "	"	24 " "	" 65c "
" 2 " to 2½ "	"	26 " "	" 60c "

Handled when desired at 20 cts. each.

Fig. 27½.



Straight Peaned Hand Hammer
(Used by Slaters and Mechanics generally.)

Made from solid crucible best cast steel. POLISHED ALL OVER AND HANDLED; also made of same stock with cross pean polished and handled at same price.

Fig. 27½. From 4 lbs. to 5 lbs.	\$15.00 per dozen.	\$1.50 each.
" 3 lbs. to 3½ lbs.	13.00 "	1.35 "
" 2 lbs. to 2½ lbs.	12.00 "	1.25 "

Fig. 27½.

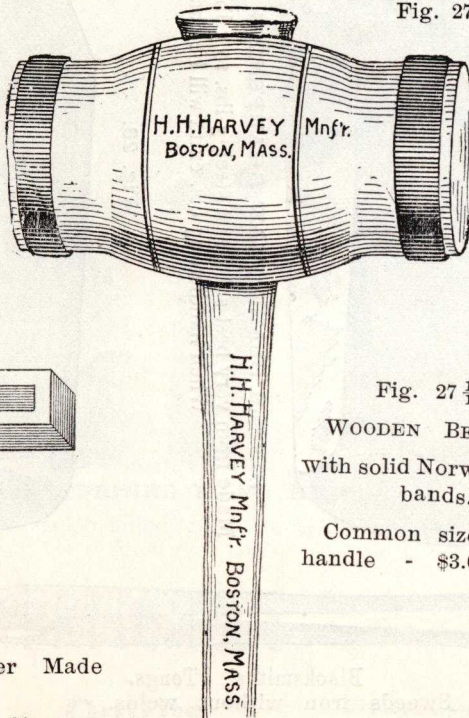


Fig. 27½.

WOODEN BEETLE
with solid Norway Iron bands.

Common size with handle - \$3.00 each.

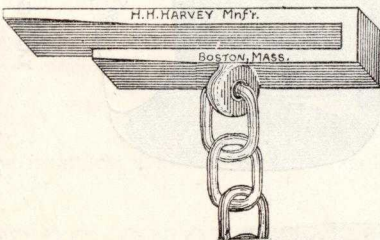
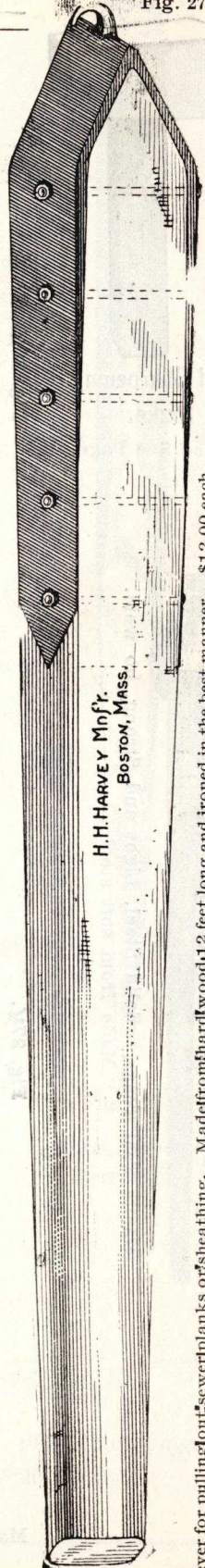


Fig. 27½.

Sheathing or Plank Puller Made of Norway Iron.

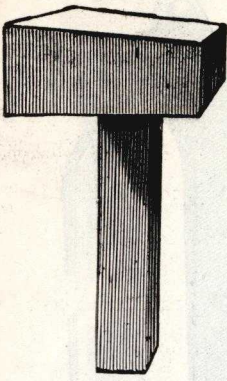
Price each - - - \$6.00.

Fig. 27½.



Lever for pulling out sewer planks or sheathing. Made from hard wood 12 feet long and ironed in the best manner. \$12.00 each.

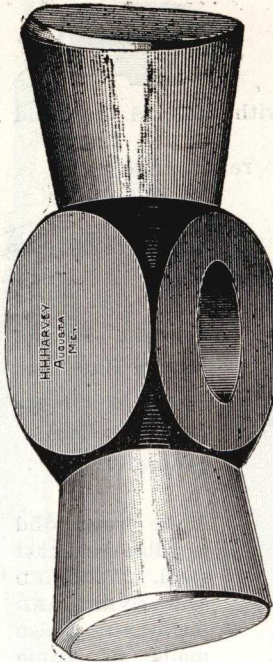
SKEW-FACED TOOL SHARPENING HAMMERS.



Tool Sharpening
Stake.

Also See Page.

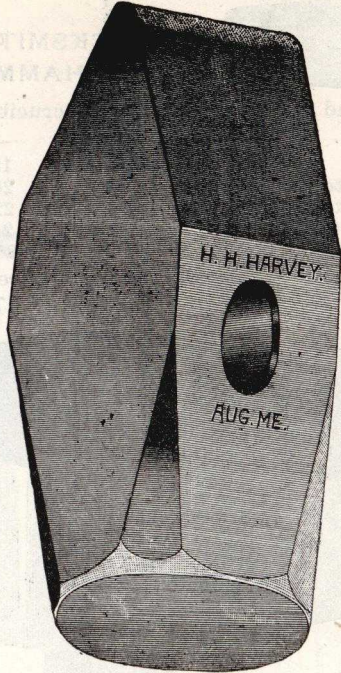
Fig. 28 3/4.



SKEW ROUND FACED SHARPENING HAMMER.

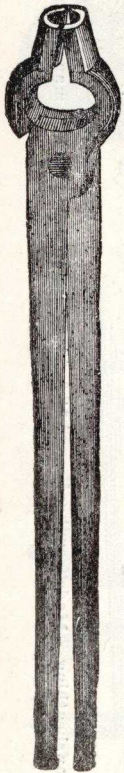
Made from solid best cast steel, 3 lbs. to 5 lbs. . \$2.00 each.
When handled 25 cts. extra will be charged.

Fig. 29.



SHORT STYLE SHARPENING HAMMER.

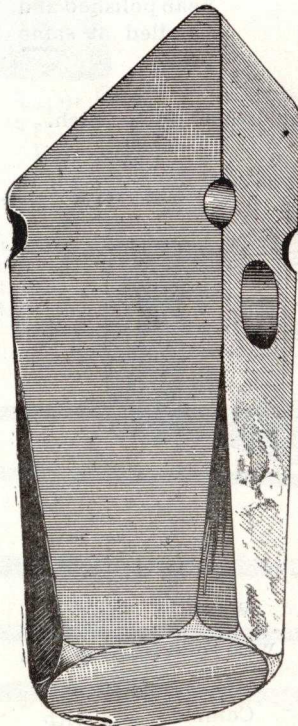
Made from solid best cast steel, 3 lbs. to 5 lbs. . \$1.75 each.
When handled 25 cts. extra will be charged.



Granite Tool Tongs. Solid Steel, Light and Strong, no weld.
Made from soft steel.

For price Also see page 23.

Fig. 27 3/4.



SINGLE SLANT PEAN SHARPENING HAMMER.

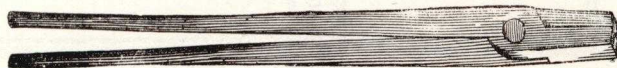
Made from very best solid cast steel, 3 lbs. to 5 lbs. . \$1.75 each.
When handled 25 cts. extra will be charged.

Fig. 28.



LONG STYLE SHARPENING HAMMER.

Made from very best solid cast steel, 3 lbs. to 5 lbs. . \$1.75 each.
When handled 25 cts. extra will be charged.



Blacksmiths' Tongs.

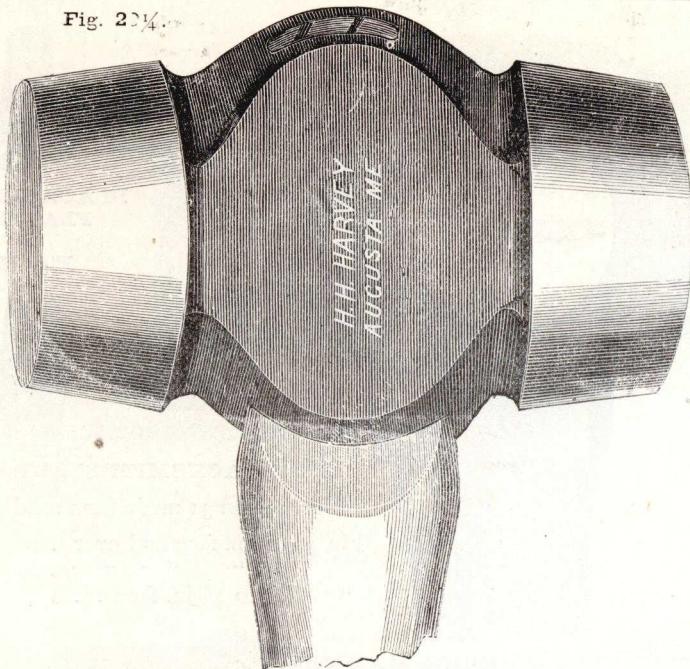
Made from Sweets iron without welds.

Small sizes, from close to horseshoe.

For price Also see page 22.

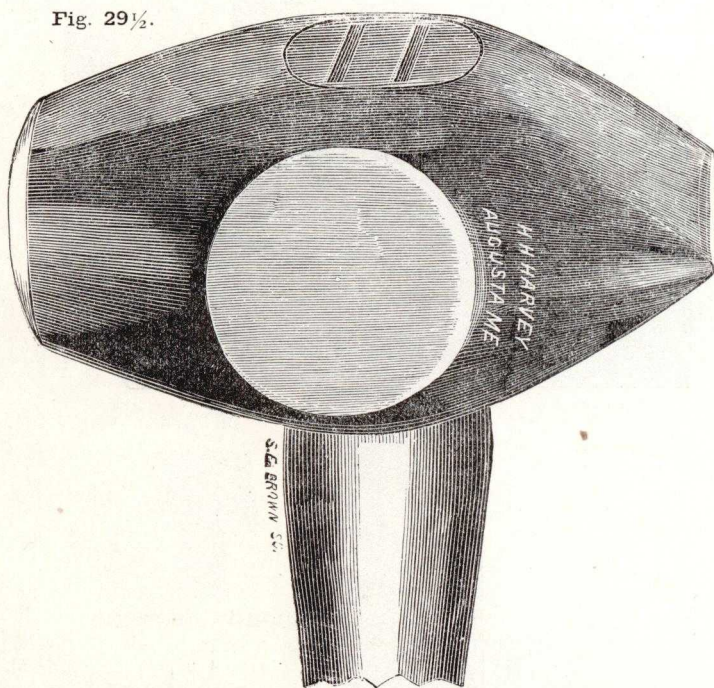
Any size or style of tongs made to order. Discount on figs.

Fig. 20¼.

**DOUBLE FACE FORGING HAMMER.**

Made from best solid cast steel, handled, $2\frac{1}{2}$ lbs. to $3\frac{1}{4}$ lbs. . . . \$18.00 per dozen.

Fig. 29½.

**HORSESHOERS' TURNING HAND HAMMER.**

Made from best solid crucible cast steel, handled, $2\frac{1}{2}$ lbs. to $3\frac{1}{4}$ lbs. . . . \$16.00 per dozen.



Fig. 29¾.

Horse Shoers' PRITCHEL.

HORSE SHOERS PRITCHELS.

Fig. 29¾, $\frac{3}{4}$ inch steel, 10 to 12 in. long.
Price 50c each. \$5.50 per doz.

Borax, Swedges, Fullers, Forges, Anvils, Cones,
 SOWS, IRON AND STEEL.

Fig. 29¾.

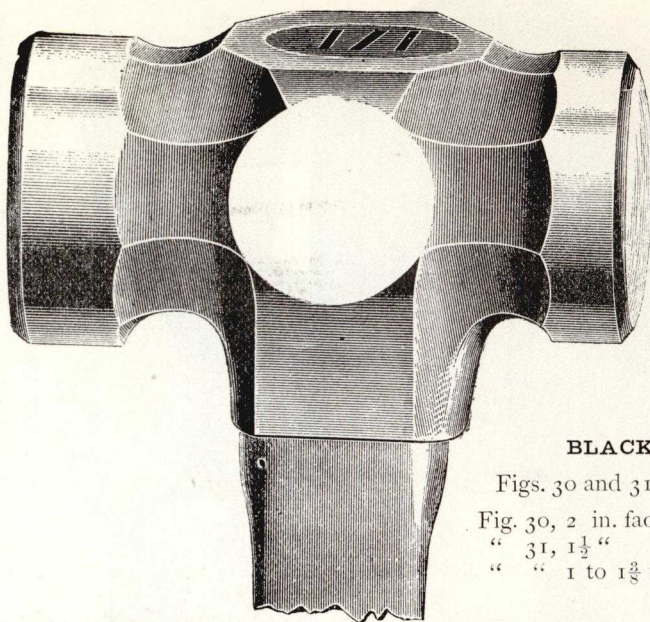
**SOCKET EYE FORGING HAMMER.**

Fig. 29¾ made from solid cast steel, weight 2 lbs. 3 oz. \$2.00 each.

Fig. 30.

**BLACKSMITHS' FLATTER.**

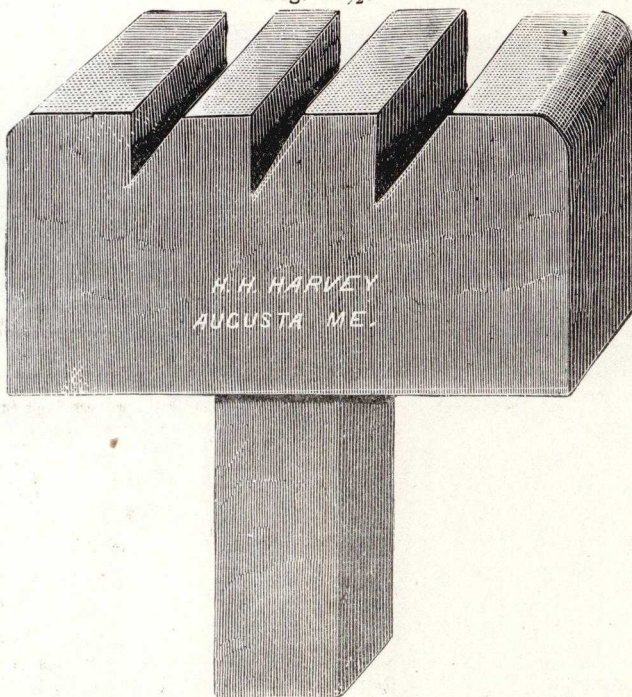
Fig. 31.

**BLACKSMITHS' SET HAMMER.**

Figs. 30 and 31 made from solid cast steel.

Fig. 30,	2 in. face and over	. 20	cts. per lb.
" 31,	1½ " " "	. 20	" "
" " 1 to 1½ in. face	. . . . .	22	" "

Fig. 31½.

**HORSESHOE CALK SWEDGE.**

Made from solid cast steel, per doz.

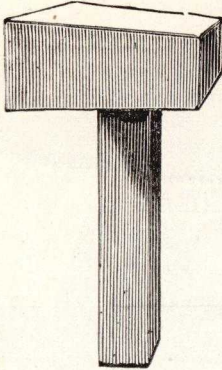
. 20 cts. per lb.

SLEDGES FOR ALL PURPOSES.

ALL SORTS OF TONGS

Discount on figs.

Fig. 32.



TOOL SHARPENING STAKE.

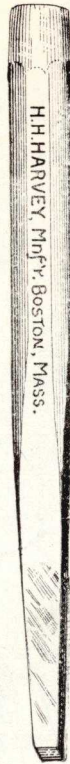
Made from solid crucible cast steel.

Fig. 32, solid steel	30 cts. per lb.
Fig. 33, " head from ½ in. hole upward	24 " "
" " " under ½ in. hole	28 " "

Fig. 33.



HEADING TOOL.

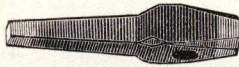


Square Hand Punches All Sizes.

Fig. 35½

Hand
Prick
Punch.

Fig. 34.



PUNCH.

Fig. 35.



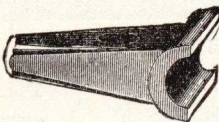
COUNTERSINK.

Figs. 34 and 35 solid crucible cast steel, made from 1¼ in. square and upward
Round, oval, or square 20 cts. per lb.

Countersinks and Punches made to any pattern or drawing.

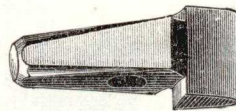
Fig. 34½.

Fig. 36.



TOP SWEDGE.

Fig. 37.

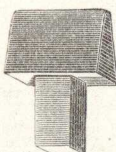


TOP FULLER.

Figs. 36 and 37 made from solid crucible cast steel.

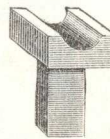
Common sizes, ½ in. to 2 in.	20 cts. per lb.
" 2¼ in. to 4 in.	26 " "

Fig. 38.



BOTTOM FULLER.

Fig. 39.



BOTTOM SWEDGE.

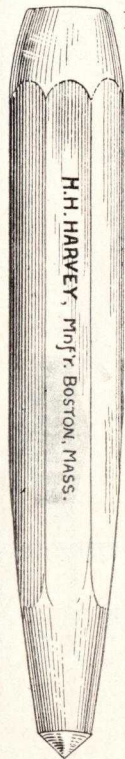
Figs. 38 and 39 made from solid steel.

Common sizes, ½ in. to 2 in. 20 cts. per lb.

Oval swedges will cost 3 cts. per lb. net extra.



Solid Round Hand Punches All Sizes.



Length.
8 to 12 in. long.

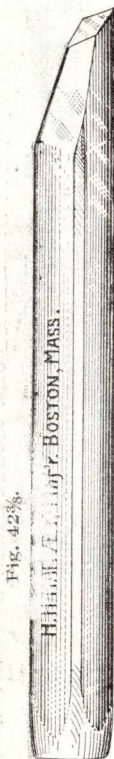
Size Steel.	Figs. 33½ and 34½. Per Dozen.	Each	Round and Square Punches. Size Steel.	Per Dozen.	Each.
1 inch.	\$3.40	.75	7/8	\$4.20	.40
7/8 "	0.84	.63	1/2	3.00	.30
3/4 "	5.40	.50	3/8	2.50	.25

We make the small end any size ordered

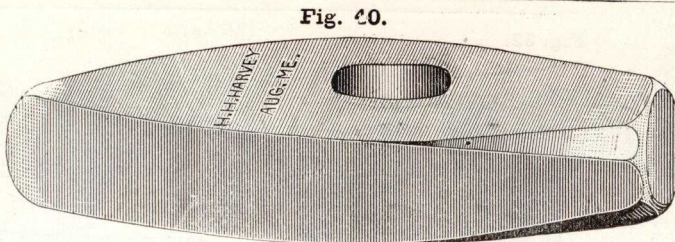
Fig. 35½.	1 inch.	\$5.40	.50	5/8	\$3.00	.30
Hand Prick Punches.	7/8 "	4.50	.42	1/2	2.50	.25
	1/2 "	3.60	.35	1/8	2.25	.20

Discount _____

Fig. 42 3/4.
 DIAMOND POINT CHISEL FOR CUTTING IRON PIPE.
 Common length 9 to 10 in.
 Size Steel.
 3/4 in. 7/8 in. 1 in. dia.
 List Price Each .30 3/4 .40 .45
 List price per dozen 3.50 4.70 5.30

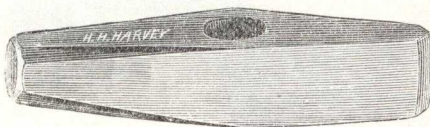


DIAMOND POINT COLD CHISEL.



RAILROAD TRACK CHISEL.

Fig. 40 1/2.



COLD TOOL STEEL CUTTER.

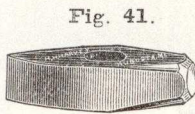


Fig. 41.

COLD IRON CUTTER.

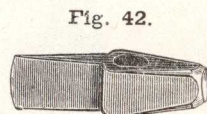


Fig. 42.

HOT CUTTER

All the chisels are made from the best crucible chisel steel.
 Either pattern from 2 1/2 lbs. and larger 20 cts. per lb.
 " " 2 lbs. to 2 3/8 lbs. 22 " "
 " " 1 1/2 lbs. to 1 3/4 lbs. 24 " "

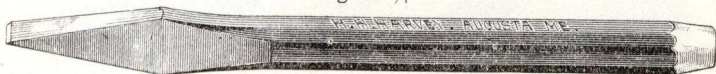
Also made to any pattern furnished at a small advance in price.
 When ordering please state for what purpose it is to be used

Fig. 42 3/8.



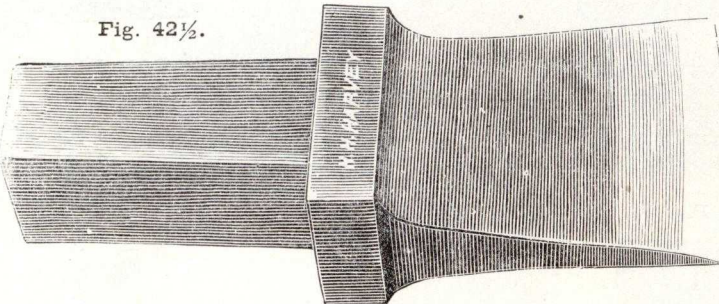
CHIPPING CHISEL.

Fig. 42 1/4.



CAPEN CHIPPING CHISEL.

Fig. 42 1/2.



HARDIE.

Fig. 43.



HARDIE. CREASER

Fig. 44.



Figs. 42 1/4 and 42 1/2 made from best chisel steel, ready for use.
 Fig. 42 1/2 and 43 made from best chisel steel, 1 1/2 lbs. and over . 22 cts. per lb.
 " " " " " 1 lb. to 1 1/2 lbs. . . 25 " "
 Fig. 44 " " " " " 1/2 lb. and over, . 50 " "

List price of chisels figs. 42 1/2 & 42 1/4 in less number than one dozen.

	1 in.	1 1/4 in.	1 1/2 in.	1 3/4 in.	2 in.	2 1/4 in.	2 1/2 in.
	30 cts.	28 cts.	25 cts.	20 cts.	18 cts.	15 cts.	15 cts. each.
List price per doz., or more	\$3.00	\$2.75	\$2.35	\$2.00	\$1.75	\$1.50	\$1.20 per dozen.

Discount on figs.

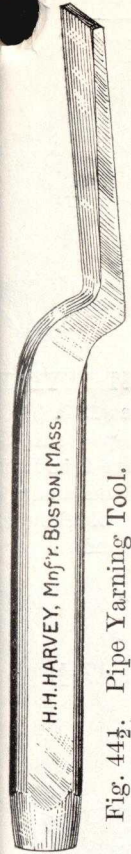


Fig. 44 1/2. Pipe Yarning Tool.

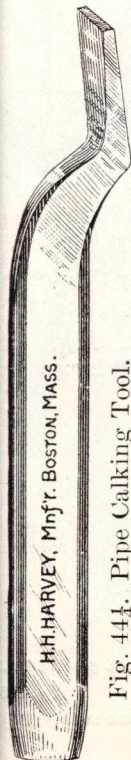


Fig. 44 1/4. Pipe Calking Tool.

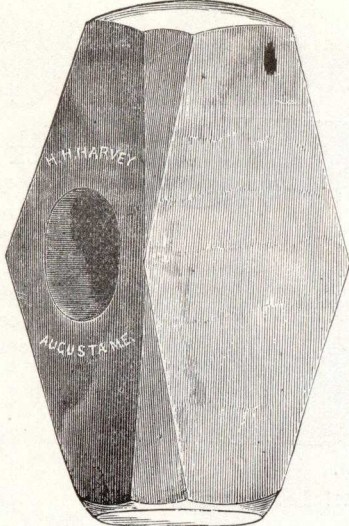


Fig. 46.

**HORSESHOERS' TURN-
ING SLEDGES.**

Made from solid crucible cast steel. Both figs. have one flat and one full face.

Fig. 46,
6 lbs. or over . 16 cts. per lb.

Fig. 47,
6 lbs. or over . 22 cts. per lb.

Same style and finish in the XX or competition quality made from hammer steel, 2 cts. per lb. less list.

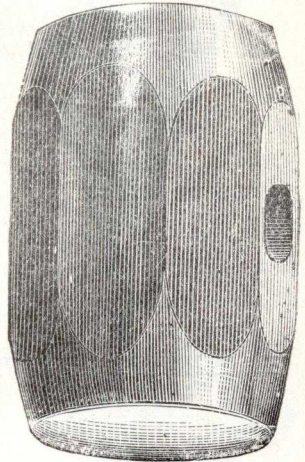
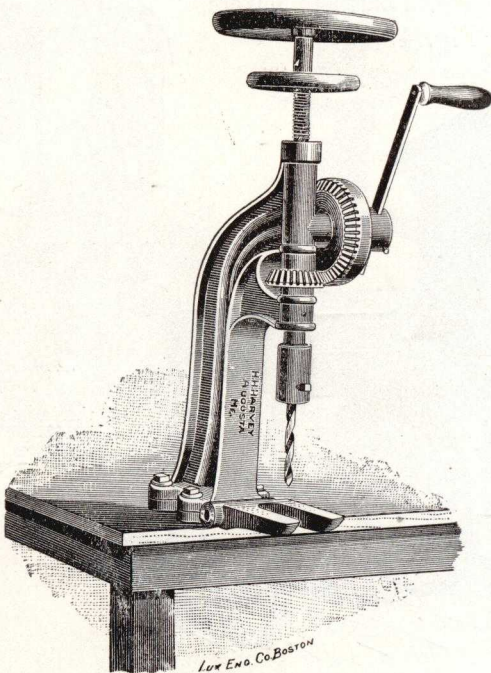


Fig. 47 1/4.



HAND DRILL PRESS.

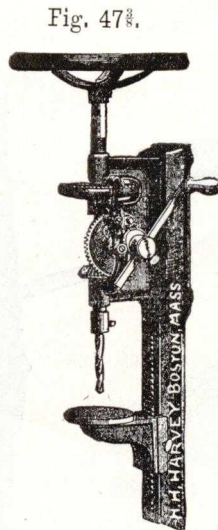


Fig. 47 1/2.

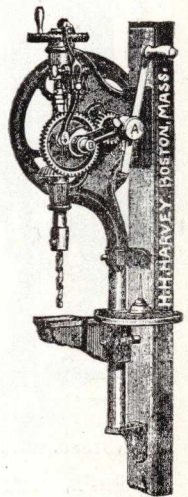


Fig. 47 3/4.

BOSS UPRIGHT DRILL PRESSES.

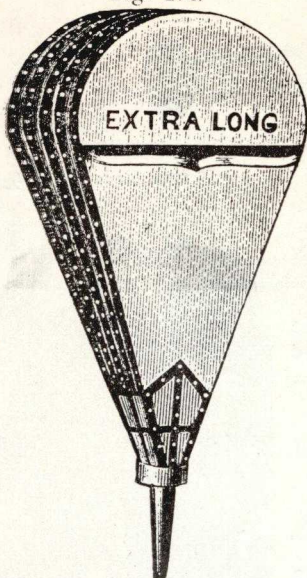
Fig. 47 1/2	Length	Wt.	Will drill	Price
	33 in.	75 lbs.	1/4 to 1 in. hole.	\$9.00

Fig. 44 1/4 & 44 1/2 are made from 7/8 best crucible Granite Tool Steel, in sets of 5 pieces Viz: 1/8, 1/4, 3/8 and 1/2 in. blade and a Yarning Tool. Price per set \$3.00 - single tools 75 cts. each.

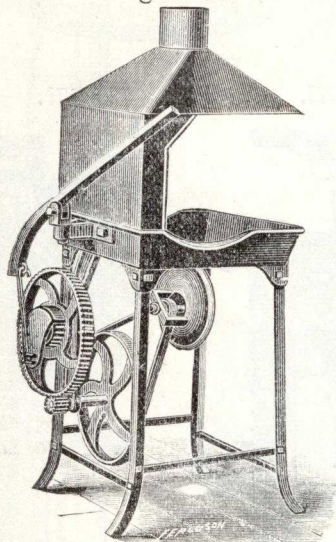
Fig. 47 1/4.	Length.	Weight.	Will Drill.	Price.
	44 in.	110 lbs.	0 to 3/4 in hole.	\$15.00.
Fig. 47 1/2.	"	120 lbs.	0 to 1 1/4 "	20.40.

Discount on figs. _____

Fig. 471.



BLACKSMITHS' BELLOWS.

Fig. 471³/₂.

With Hood. With Angle Iron Legs.

Lever Handles, Deep Fire Pans, Babbited Bearings.

Making them easily worked, very strong and quickly repaired. They are made with our new Ratchet, giving a positive forward motion without dead centers.

This Forge is especially adapted for heavy carriage and blacksmith work, having a large fire pan with sufficient blast for the heaviest kind of work. Blacksmiths will find this forge far superior to the old fashioned bellows and brick forge requiring less than half the room.

Blacksmiths' Bellows.

Fig. 474.

	Size in inches.	18 to 24	25	28	30	32	34	36	38	40	42	44
	Price each.	\$5.00	\$5.50	6.00	6.50	7.00	8.00	9.00	10.00	11.50	13.50	16.00
Blacksmiths' Forge fig. 47 5-16.	Height 30 in.	Size of fan 14 in.	Fire pan 28 x 40 in.	Weight 250 lbs.	Price for hand power \$25.							
Blacksmiths' Forge fig. 47 7-16.	25 in.	14 in.	28 x 40 in.	310 lbs.	" " 25. " " " " 27.50.							
Blacksmiths' Forge fig. 47 13-32.	55 in.	7 in.	15 x 19 in.	115 lbs.	Price \$12.							
Blacksmiths' Forge fig. 47 15-32.	33 in.	7 in.	15 x 19 in.	95 lb.	Price \$11.							

[Water tank extra \$2.50.]

FORGES FOR BLACKSMITHS AND CARRIAGE MAKERS

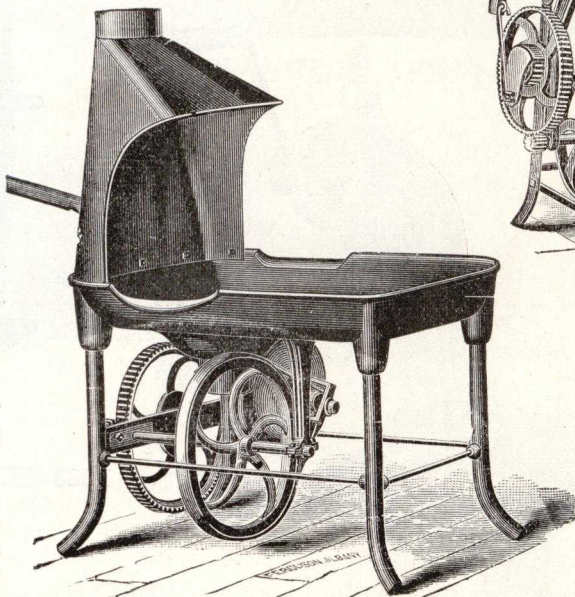
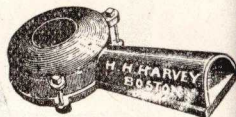
Fig. 47⁵/₁₆.

For Hand.

Lever Handles, Deep Fire Pans and Babbited Bearings.

Forges

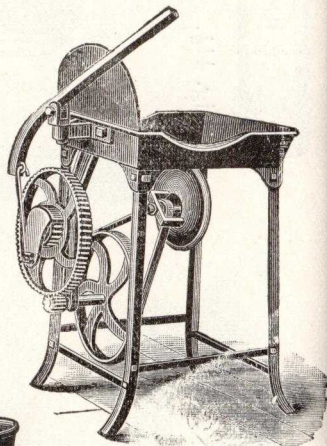
For Blacksmiths and Carriage Makers.

Fig. 47⁷/₁₆.Fig. 47¹¹/₃₂.

DUCK NEST TUYERE.

Price \$1.25.

This cut represents the oldest Tuyere Iron in the market, it has been so long used by blacksmiths that commendation is unnecessary.

Fig. 47¹⁵/₃₂.

Without hood with angle iron legs.

Positively the cheapest Forge made.

Lever Handles. Deep Fire Pans. Babbited Bearings.

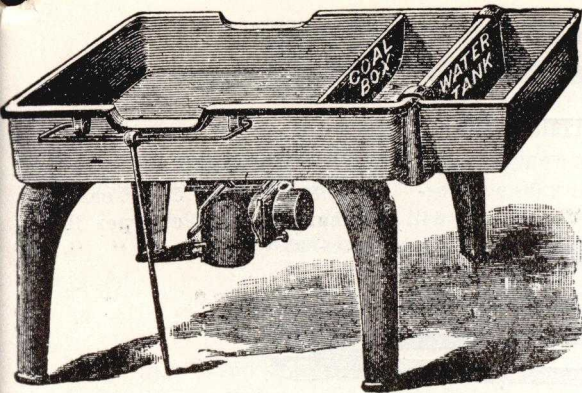
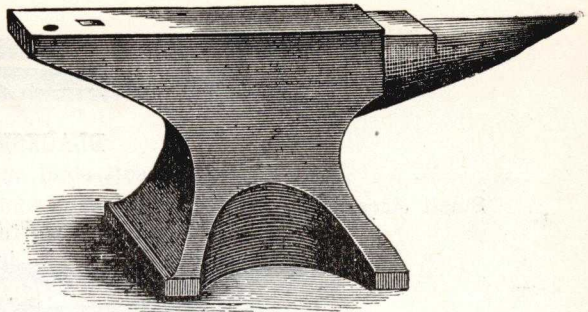
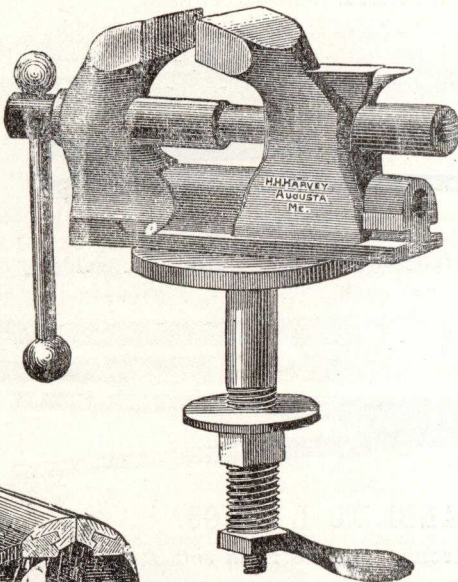
Ffig. 47 $\frac{1}{4}$.

Fig. 47 9-16.



Anvils for all purposes.
State weight required.

Blacksmiths' Forges
of Any Size or Make
Desired.

Fig. 47 $\frac{1}{4}$. Bench Vise.Fig. 47 $\frac{1}{8}$.

Blacksmiths' Leg Vise of Any Make.
Give Length of Jaws Wanted Etc.

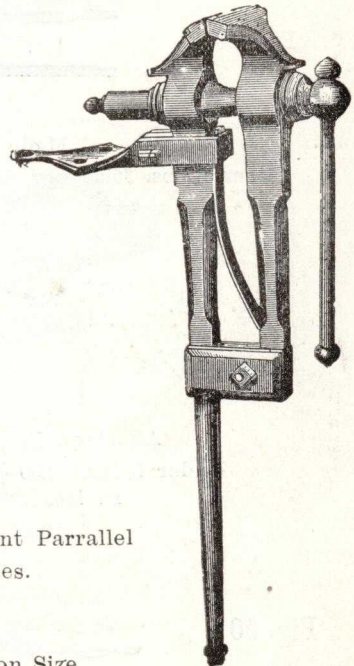


Fig. 47 $\frac{5}{8}$ Swedge Blocks
Any Size . 5 cts. per lb.

Fig. 47 $\frac{15}{16}$ Patent Parrallel
Vises.

Common Size
Parallel Length of Jaw. Jaws Open. Price.
Bench 4 in. 9 in. \$8.75.
Vise Fig. 47 $\frac{15}{16}$.

We have them all sizes in same proportion.

Blacksmiths Forge, Fig. 47 $\frac{1}{4}$. Height 26 in. Fire Pan 38 x 51 in. Weight 400 lbs. Price \$27.50.

Anvils Wrought Iron with English Steel Face, 100 lbs. and over 12 cts per lb.

Fig. 47 9-16

Cast

"

"

"

100

"

10

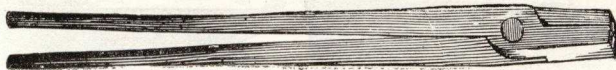
"

"

"

Fig. 47 9-16		Cast												
Bench	Width of Jaws in inches.	1½	1¾	2	2½	3	3½	4	4½	5	6	7		
Vises	Weight in pounds	3½	5	9	22	39	47	56	67	75	116	169		
Fig. 47½.	Price each	-	-	\$2.10	\$2.95	\$3.30	\$4.35	\$5.65	\$7.30	\$8.30	\$10.00	\$13.40	\$19.25	\$23.00
Blacksmiths'	weight & size	40	45	50	55	60	65	70	75	80	85	90	95	100
Leg Vise Fig. 47½.	Price.	\$6.30	\$6.60	\$6.90	\$7.20	\$7.80	\$8.40	\$9.00	\$9.60	\$10.50	\$11.10	\$12.00	\$12.60	\$13.20

Fig. 48.

**BLACKSMITHS' TONGS.**

Made from soft steel or Sweeds iron, without welds.

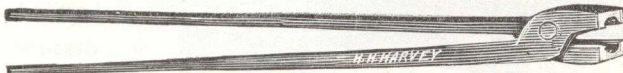
Small sizes, from close to horseshoe under 3 lbs., - \$5.50 per doz. 50 cts. each.

Above 3 lbs., in dozen lots will be charged at 16 cts. per lb.

" " " in less than dozen lots - - 18 " " "

Any size or style of tongs made to order.

Fig. 49.

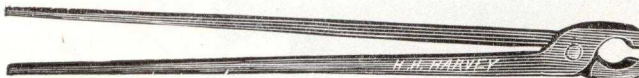
**GRANITE WEDGE TONGS.**

Made from soft steel or Sweeds iron, no welds.

3 lbs and under \$5.50 per dozen, 50 cts. each. - - Over 3 lbs. 16 cts per lb.

In less than dozen lots - - - - - 18 " " "

Fig. 50.

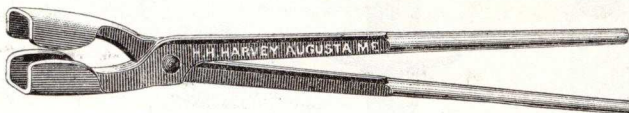
**LINK TONGS.**

Made from soft steel or Sweeds iron, no welds.

Under 3 lbs. \$5.50 per dozen 50 cts. each. - - Over 3 lbs. 16 cts. per lb.

In less than dozen lots - - - - - 18 " " "

Fig. 50½.

**PLANER TOOL TONGS.**

All steel, light and strong. Made from soft steel, no welds.

Under 3 lbs. \$6.50 per dozen. 60 cts. each Over 3 lbs. 20 cts. per lb.

In less than dozen lots - - - - - 22 " " "

Fitted for any size tool. All sizes on hand.

Fig. 50¾.

**PICKUP TONGS.**

Made from soft steel. Common sizes about 3 feet long.

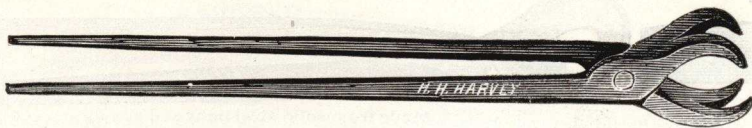
Under 3 lbs. \$5.50 per dozen. 50 cts. each. - Above 3 lbs. 16 cts. per lb.

In less than dozen lots - - - - - 18 " " "

Quarry Chains and Bars, Cannon Balls and Hardwood
Rolls, Second Hand Steel Rails,

Iron Blocks For Wire and Manilla Rope.

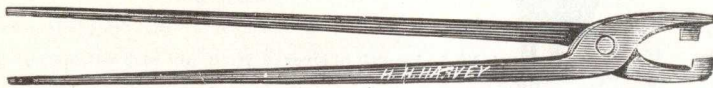
Fig. 51.

**CROTCH TONGS.**

Made from solid soft steel or Sweeds iron, no welds, for handling round or square iron endwise.

Under 3 lbs. 50 cts. each	\$5.50 per dozen.	Over 3 lbs.	16 cts. per lb.
In less than dozen lots	- - -	" " - - -	18 " " "

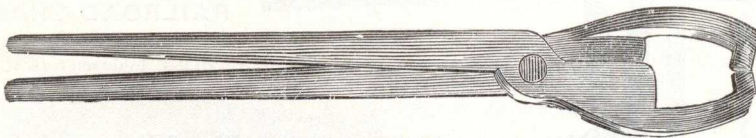
Fig. 52.

**LIP TONGS.**

Made from solid soft steel or Sweeds iron, no welds, for handling flat or square iron.

Under 3 lbs. 50 cts. each	\$5.50 per dozen.	- - -	Over 3 lbs. 16 cts. per lb.
In less than dozen lots	- - -	- - -	18 " " "

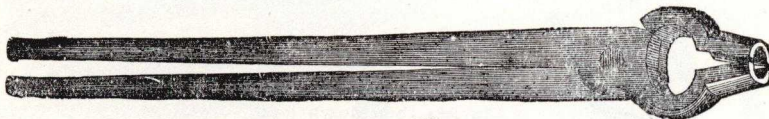
Fig. 53.

**PEAN HAMMER TONGS. (All steel.)**

Made from soft steel, light and strong, no weld.

Common size for 4 to 10 lb. hammers	- - - -	\$1.25 each.
Large sizes for 10 to 15 lb. face hammers	- - - -	1.40 "
Extra large sizes for 16 to 25 lb. face hammers	- - - -	1.75 "

Fig. 54.

**GRANITE TOOL TONGS.**

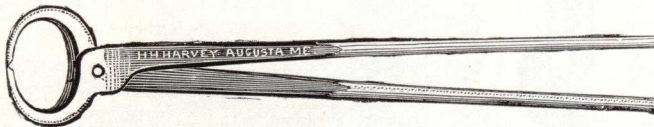
Solid Steel Light and Strong, no Weld.

Made from soft steel for $\frac{1}{4}$ to 1 in. steel tools	- - -	\$11.40 per doz.	\$1.00 each.
" " " $\frac{3}{8}$ to $\frac{1}{2}$ in. " " - - -	- - -	10.00 "	85c "

Same pattern bolt tongs made from same stock same price.

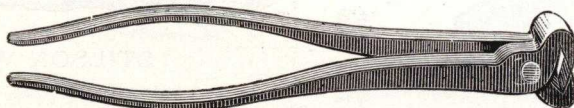
Shoeing pincher pattern bolt tongs, notched, made from soft steel or Sweeds iron, 3 lbs. and under \$8.40 per dozen, Over 3 lbs., 24 cts per lb.

Fig. 55.

**SHOEING PINCHERS. Equal to any.**

Solid wrought steel, extra large size	- - -	\$13.20 per doz.	\$1.25 each.
" " " smaller " - - -	- - -	12.00 "	1.10 "

Fig. 56.

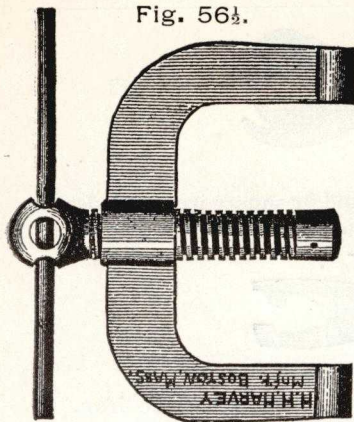
**HORSESHOERS' CUT NIPPERS. Best made.**

Best cast steel, common size	- - -	\$12.00 per dozen.	\$1.10 each.
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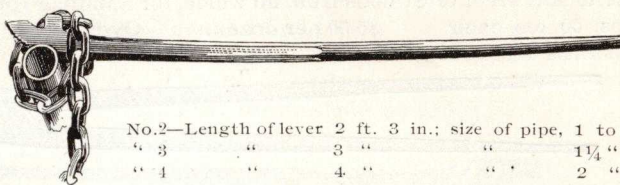
Iron & Steel for Quarries, Anvils. Forges, Vises, Drillers,
QUARRY HOOKS and CHAINS,

ADJUSTABLE CHAIN LINKS.

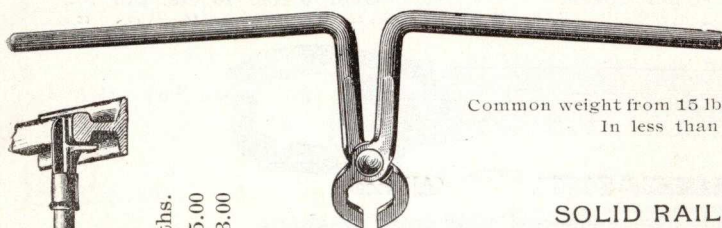
Fig. 56½.



Made from solid steel light and strong.											
Size in in.	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Price each	55c	55c	68c	80c	95c	\$1.10	\$1.50	\$1.70	\$2.00	\$2.50	\$3.00

Fig. 57
PIPE
TONGS.Fig. 57½.
Patent chain
Pipe Tongs.

All Steel.											
No. 2—Length of lever 2 ft. 3 in.; size of pipe, 1 to 2 in.											
" 3	"	"	3	"	"	"	"	1 1/4	"	4	"
" 4	"	"	4	"	"	"	"	2	"	6	"
" 5	"	"	5	"	"	"	"	2 1/2	"	8	"
" 6	"	"	6	"	"	"	"	4	"	10	"
										\$5.50 each.	
										6.25	"
										9.00	"
										12.50	"
										16.00	"

Fig. 57½.
RAILROAD TRACK TONGS.

Solid Steel.

Common weight from 15 lbs. to 20 lbs. in dozen lots . . . 20 cts. per lb.
In less than dozen lots 22 " "

Fig. 57½.

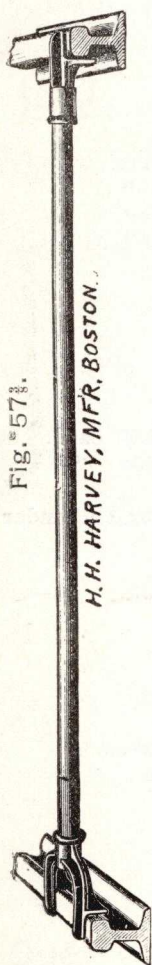
SOLID RAILROAD TRACK WRENCH.



Made from solid steel.

Common sizes weigh from 5 to 6 lbs. each. Per doz. 20 cts. per lb.
In less than dozen lots 22 " "

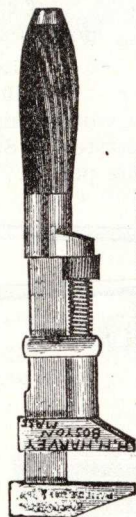
Fig. 57½.

All lengths.
\$35.00
3.00

RAILROAD TRACK GAUGE.

Price per dozen
" each

Fig. 58 1/16.



SCREW WRENCH.

Fig. 58 1/16. Cocs Pat. Monkey Wrench.

Size	6 in.	8 in.	10 in.	12 in.	15 in.	18 in.	21 in.
Price	\$5.40	\$6.00	\$7.20	\$8.40	\$13.40	\$18.00	\$21.60
Per dozen.							

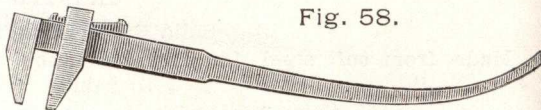


Fig. 58.

KEY WRENCH.

Made from solid steel for heavy work.
Common size, 30 inches long - \$5.00 each
Other sizes made to order.

Fig. 58 1/32.



STILSON WRENCH.

Fig. 58 1/32.

Length open in ins.

Takes a pipe from

Price each

1/8 to 1/2 in.	1/8 to 3/4 in.	1/2 to 1 in.	1/2 to 1 1/2 in.	1/4 to 2 in.	1/2 to 2 1/2 in.	1/2 to 3 1/2 in.	1 to 5 in.
\$1.25	\$1.25	\$1.30	\$1.88	\$2.50	\$3.75	\$7.50	\$11.25

Stilson Patent Wrench.

Fig. 53½ Ji n Crow or Screw Rail Bender, Best Wrought Iron with Machine Cut Square Thread Screw.

For Steel Rail. Size up to	For Iron Rails. up to	Price Each.	Weight With Lever.	Span to Center of Claws	Diameter of Screw.
1-20 lbs. per yard.	30 lbs. per yard.	\$17.56.	65 lbs.	16 inches.	2 inches.
2-45 " "	55 " "	24.60.	100 "	20 "	2 1/4 "
3-65 " "	75 " "	34.44.	140 "	24 "	2 1/2 "
3 1/2-75 " "	85 " "	41.00.	155 "	24 "	2 3/4 "
4-90 " "	100 " "	48.38.	185 "	24 "	3 "

Fig. 58 $\frac{1}{2}$ Same price as Fig. 59, below.

The common sizes have 1 lb. of best cast steel at each end.

Fig. 58 $\frac{1}{2}$.**Swedged End Contractors' Pickaxe.**

Round Pointed at Both Ends.



Fig. 59.

Railroad Pickaxe.

Solid eye pattern.

Pointed with the best cast steel, has 1 lb. at each end; has one pointed and one flat end.

Either pattern, Fig. 58 $\frac{1}{2}$ or Fig. 59.

Size 1. 4 to 4 $\frac{1}{2}$ lbs. .	\$7.00 per doz.	Size 8. 7 $\frac{3}{8}$ to 8 lbs. -	\$12.60 per doz.
" 2. 4 $\frac{1}{2}$ to 5 " .	8.00 "	" 9. 8 $\frac{1}{8}$ to 8 $\frac{1}{2}$ " -	13.50 "
" 3. 5 $\frac{1}{8}$ to 5 $\frac{1}{2}$ " .	8.60 "	" 10. 8 $\frac{3}{8}$ to 9 " -	14.24 "
" 4. 5 $\frac{3}{8}$ to 6 " .	9.50 "	" 11. 9 $\frac{1}{8}$ to 9 $\frac{1}{2}$ " -	15.00 "
" 5. 6 $\frac{1}{8}$ to 6 $\frac{1}{2}$ " .	10.25 "	" 12. 9 $\frac{3}{8}$ to 10 " -	16.00 "
" 6. 6 $\frac{3}{8}$ to 7 " .	11.00 "	" 13. 10 $\frac{1}{8}$ to 10 $\frac{1}{2}$ " -	16.48 "
" 7. 7 $\frac{1}{8}$ to 7 $\frac{1}{2}$ " .	11.75 "	" 14. 10 $\frac{3}{8}$ to 11 " -	17.48 "

Fig. 59 $\frac{1}{2}$.**Solid R. R. Pick Eye.**

Prices given on application

Weights — 4, 4 $\frac{1}{2}$, 5, 5 $\frac{1}{2}$, 6, 6 $\frac{1}{2}$, 7, 7 $\frac{1}{2}$, and 8 lbs. each

Fig. 60.

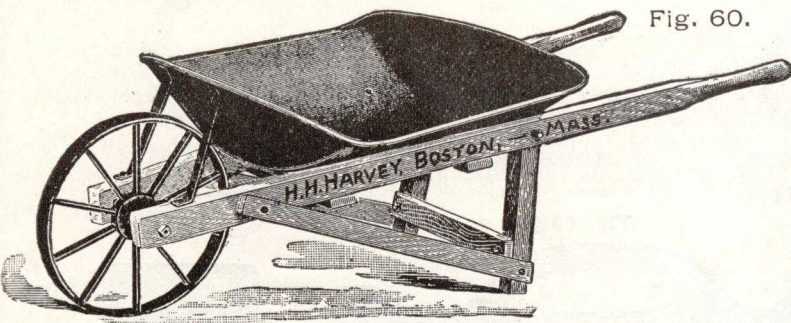
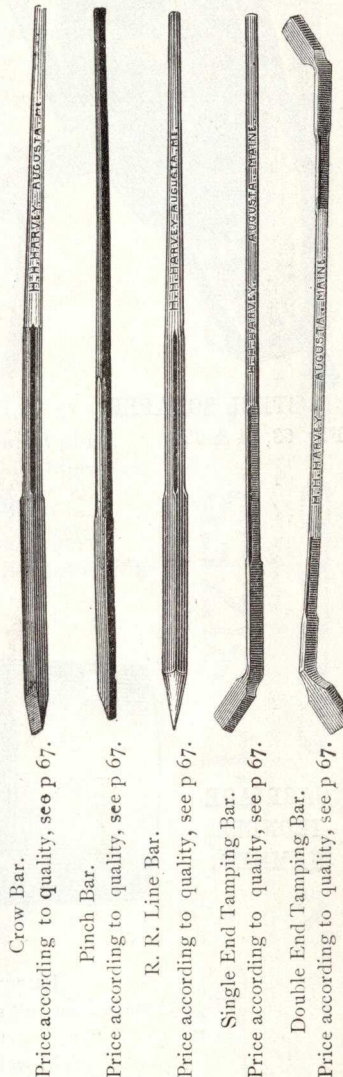


Fig. 61.

Crow Bar.
Price according to quality, see p 67.Pinch Bar.
Price according to quality, see p 67.R. R. Line Bar.
Price according to quality, see p 67.Single End Tamping Bar.
Price according to quality, see p 67.Double End Tamping Bar.
Price according to quality, see p 67.

The most Substantial, Cheapest and Best Steel Tray Barrow yet manufactured. Specially adapted for Heavy Work. The Best Barrow on the market for Street Pavers. The tray of fig. 60 is best steel, pressed from a single sheet, without joint, seam or rivet. Stronger and more durable than riveted iron trays of same thickness. The flange of tray is turned over a 5-16 steel rod, which passes entirely around the tray, giving a smooth finish to the edge of bowl, preventing breaking, and stiffening and strengthening it.

Fig. 61 Full size, bent tray; planed and well finished. All parts BOLTED, not nailed. Knocks down completely for shipment, and is easily set up. Will outwear any other Barrow known.

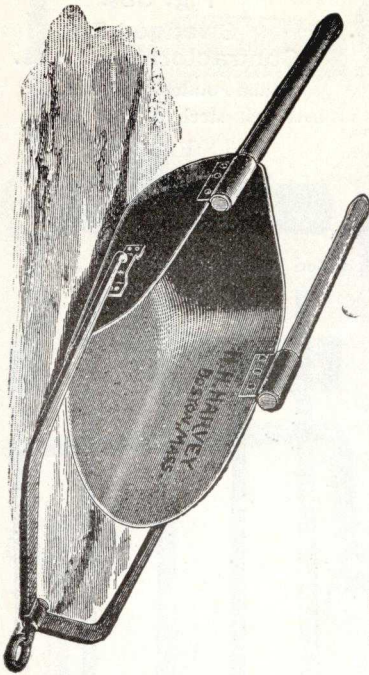
Fig. 60 The Pan American Steel Tray Barrow, Jacobs Patent Wheel.

Size of Tray 33x31 in. Depth at Handle End 7 $\frac{1}{2}$ in. Depth at Wheel End 11 in. Price with Steel Wheel \$39.00 per doz.

Fig. 61 Bolted Railroad or Dirt Barrow Jacobs Patent Wheel.

Diam. of Wheel.	Size of Tire.	Handles.	Size of Tray.	Price with Wood Wheel	\$19.00 per doz.
17 in.	1 $\frac{1}{2}$ in. wide.	5 ft. long.	33 x 27 in.	" " Steel "	22.00 "

Fig. 62.



STEEL SCRAPER.

Fig. 63, 64 & 65

Fig. 63.



STRAIGHT PEAN.

Also made with Cross Pean.

Fig. 64.



CROSS PEAN (Square body).

Fig. 65.



BALL PEAN.

Made from crucible solid cast steel. The weights are the heads without handles.

Weight, 2 lbs. . . \$18.00 per doz.

Weight, 3 lbs. . . \$25.00 per doz.

" 2½ " . . 20.00 "

" 3½ " . . 29.00 "

" 2½ " . . 22.00 "

" 4 " . . 32.00 "

All our machinists' hammers are handled, if not otherwise ordered, and are packed in half dozens of a kind.

Fig. 65½.

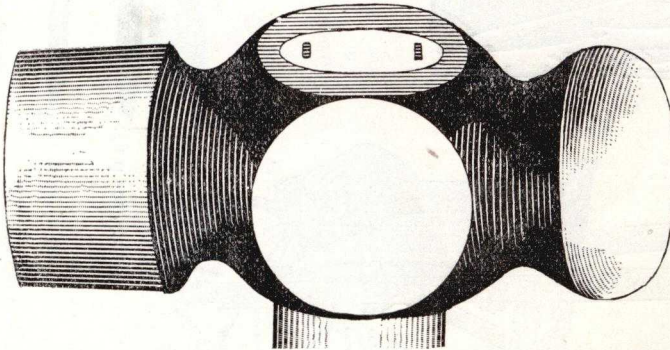
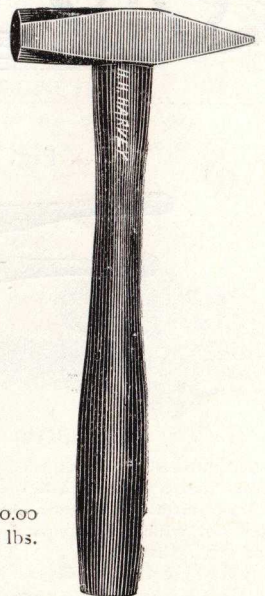
CARRIAGE
IRONERS'
HAMMER.

Fig. 66.



RIVETING HAMMER.

PRICES ETC., OF FIGS. 65½ AND 66.

Fig. 65½ made from best solid steel, 2½ lbs. - - - \$12.00 per dozen.

" " " 2½ " - - - 13.00 "

The weights are heads without handles.

Fig. 66 made from crucible solid cast steel, polished and handled.

Numbers,	0	1	2	3	4	5	6	7
Price per dozen,	\$4.50	\$5.25	\$6.00	\$6.70	\$7.25	\$8.00	\$9.00	\$10.00
Weight - -	7 oz.	9 oz.	12 oz.	1 lb.	1 lb. 4 oz.	1 lb. 8 oz.	1 lb. 12 oz.	2 lbs.

The weights are without handles.

Fig. 62.

The Only Perfect All Steel Earth Scraper.

No.	Will Carry.	Size of Bowl.	Depth of Pan.	Weight.	Price Each.
1	7 ft. of Earth	33½ x 32 in.	11½ in.	102 lbs.	\$7.60
2	5 " "	31½ x 29 in.	11½ in.	94 lbs.	\$7.10
3	3 " "	29 x 28 in.	11½ in.	90 lbs.	\$6.60

Discount on figs.

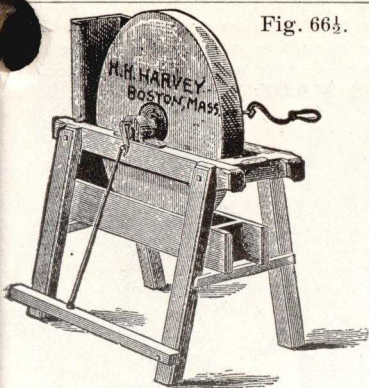


Fig. 66 1/2.

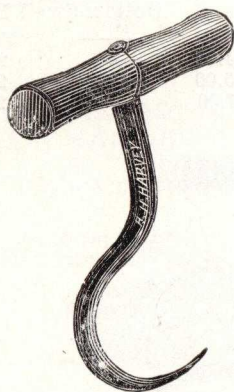
Grindstone and Bench with Crank and Treadle.

Fig. 66 1/2 MOUNTED GRINDSTONE.

Diam. of Stone.	Thick.	Price.
21 to 23 in.	1 1/2 to 3 in.	\$ 6.25
23 to 24 in.	1 1/2 to 4 in.	\$ 6.75
25 to 27 in.	1 3/4 to 3 in.	\$ 7.75
27 to 28 in.	1 3/4 to 4 in.	\$ 8.75
31 to 33 in.	2 to 3 in.	\$ 9.75
33 to 34 in.	2 to 4 in.	\$10.75
36 to 38 in.	2 1/4 to 4 in.	\$12.75
40 to 42 in.	2 1/2 to 4 in.	\$15.75

Stone and Bench Etc., Furnished Separately if Desired.

Fig. 67.



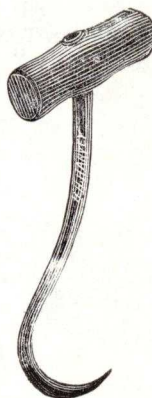
HAY HOOK.

Fig. 68.



COTTON HOOK.

Fig. 69.

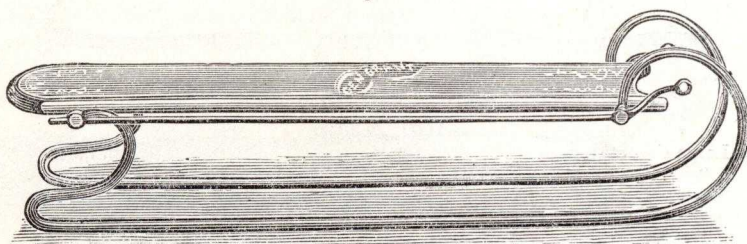


BOX HOOK.

Figs. 67, 68, and 69, are made from crucible solid cast steel. These cuts are poor representations: the hooks have more crook near the handles.

Hay hook, 7 in.	5 in.	6 in.	7 in.	8 in.	\$2.50 per dozen.
Cotton and box hooks	\$2.70	\$2.80	\$2.90	\$3.00	\$3.00 per dozen.

Fig. 70.



THE H. H. HARVEY STEEL RUNNER COASTING SLED.

The runners are made from forged round steel rods, each end being drawn a true taper and nicely curved. The runners, bars, and rails are all separate and interchangeable, and can be duplicated at any time. Each runner is put on with two nuts, which any boy can adjust. In shipping, the runners are taken off when desired, and the whole, or three pieces, occupy but two inches of space. Thus many sleds can be packed in a small box. The above sleds are nicely painted and beautifully ornamented, and finished with a good coat of coach varnish, making it a light, durable, safe, easy, most desirable, and the best selling steel coasting sled in the market, with no superior. No charge for boxing.

Size	Length.	Size of Runner.	Weight.	Price.
Size 1.	36 in.	5/8 in. steel.	14 lbs.	\$24.00 per dozen.
" 2.	30 "	1/2 " "	11 "	20.00 "

Packed in boxes of one-quarter and one-third dozen each.

Discount on figs.

SHACKLES - ALL SIZES, - CHAINS,
DOGS AND GRAB HOOKS.

Fig. 77.

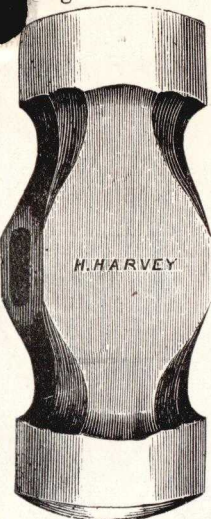


Fig. 78.



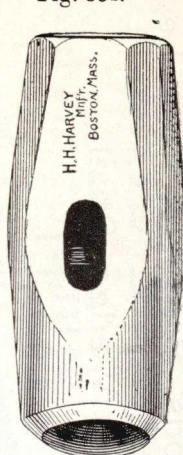
Fig. 79.



Fig. 80.



Fig. 80½.



BOILER MAKERS' BUTTON HAMMER.

BOILER MAKERS' HAMMERS.

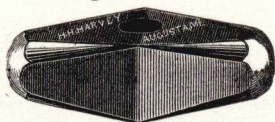
Rivet Set Hammer.

Figs. 77, 78, 79, and 80, made from best solid crucible cast steel.

From 3 lbs. to 6 lbs., per dozen 40 cts. per lb.

Handled when desired, 25 cts. each extra.

Fig. 81.



NAPPING HAMMER.

Fig. 81 made from solid crucible cast steel.

From 3 to 6 lbs., per dozen 30 cts. per lb.

Handled, if desired, 25 cts. each extra.

Boiler hammers made to any pattern or drawing.

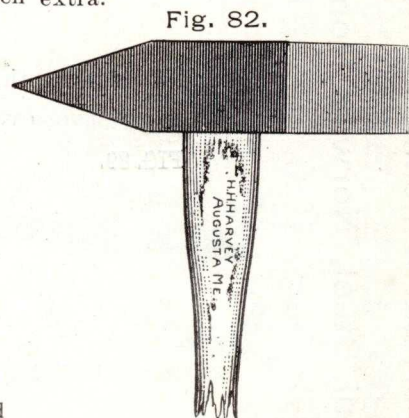
Fig. 80½ Rivet Set Hammer for $\frac{3}{8}$ to $\frac{1}{2}$ in. rivet \$1.75 each.

" " " $\frac{1}{2}$ to 1 " 2.00 "

Fig. 82 made from best solid crucible cast steel, polished and handled.

Weight from $\frac{3}{4}$ to 1½ lbs. \$1.00 each.

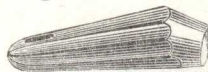
Fig. 83.



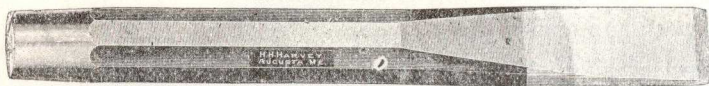
BOILER SCALING HAMMER.

Sharp at each end.

Fig. 84.



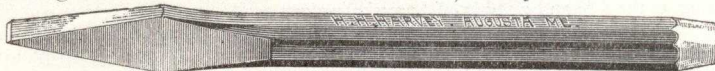
Filecutters' Hammer.



HAND COLD CHISEL.

Fig. 83 made from best chisel steel, ready for use.

Fig. 83½.



CAPEN CHIPPING CHISEL.

List price of chisels figs. 83 and 83½ in less number than one dozen.

	1 in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.
	30 cts.	28 cts.	25 cts.	20 cts.	18 cts.	15 cts.	15 cts.
List price per dozen or more	\$3.00	2.75	2.35	2.00	1.75	1.50	1.20

For long chisels see figure 23½ page 10.

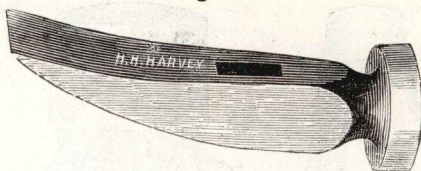
Fig. 84, solid steel from 2 lbs. to 3 lbs. 75 cts. per lb.

" " 3 lbs. to 5 lbs. 67 " "

" " 5 lbs. up 60 " "

Discount on figs.

Fig. 85.



SHOEMAKERS' HAMMER (Handled).

Made from crucible solid cast steel. Common sizes, per dozen \$1.00 each.

Fig. 86.



Fig. 87.



Fig. 88.



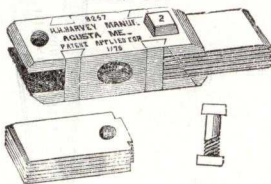
COMMON BURR STONE OR GRIST-MILL PICKS.

Made from best burr stone steel, tempered well up. Warranted.
Order by fig. number.

Size 1,	1 1/2 in. wide,	weight 4 lbs.,	}	35 cts. per lb.
" 2,	1 1/2 "	" 3 "		
" 3,	1 1/2 "	" 2 1/2 "	}	40 " "
" 4,	1 1/2 "	" 2 "		
" 5,	1 1/2 "	" 1 1/2 "	}	45 " "
" 6,	1 1/2 "	" 1 1/2 "		

Redressing the fig. 86, 87 and 88 points 25 cts. per Pick.
" over the eye when needed 25 " " " Extra.

FIG. 89.

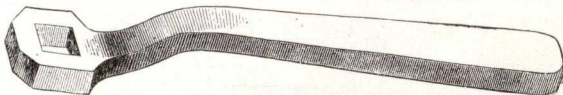


Size	Width.	Jaws open.	Weight.	Blades in each end.	Price.
1,	2 in.	1 1/2 in.	4 lbs.	Each end filled as ordered,	\$5.50
" 2,	1 1/2 "	" "	3 1/2 "	" " "	5.50
" 3,	1 1/2 "	" "	2 1/2 "	" " "	5.00
" 4,	1 1/2 "	" "	2 "	" " "	5.00

Extra sets of plates furnished for both ends, at \$2.00.
Wrench, 33 cts.; Tongs, 75 cts.; Handle, 16 cts.

PATENT BURR STONE HAMMER OR GRIST-MILL PICK.

Fig. 90.



WRENCH.

Each hammer is furnished with one set of cuts or plates for each end, as ordered, from one upward. I have sold them with from two to eight cuts in each end of the large size, and two to four in the small size. There has been a large lot of the above picks sold, and are giving entire satisfaction. Its advantages, are many. 1st. It makes better work in less time. 2d. They need no drawing or smithing. 3d. They are cheaper. 4th. Any man, with a little practice, can do the work of four men with the old kind. By sending us the size and number of hammer, we can send cuts or plates that will fit. I am the patentee of the above picks, and shall prosecute all infringers of the same. These picks are tempered by a patent process, and are all tested before leaving the shop, and warranted. References given when desired. I will give one of the many testimonials I have received:

II. H. HARVEY, ESQ.,

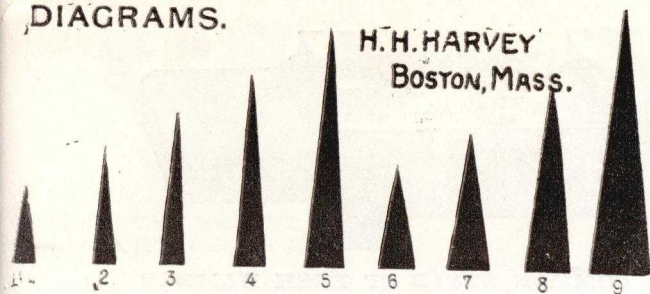
DEAR SIR: Your patent *Mill Pick* is, in theory and utility, the most *Perfect Stone Dresser* in use; equally good for *burr or granite*, wheat or corn. Any miller can use one after a little practice, and when skilled in its use can easily do the work of four men with the common pick, and do it much better. No man can do as good work with any common pick or machine I ever saw as with *this pick*. I have tried to secure the latest improvements in this line, and have one machine costing seventy-five dollars which I should be glad to exchange for one of your largest picks. If any miller will call on me, I will convince him that what I say is but *faint praise*, and show him the best grinding surface for corn he ever saw.

Very truly,

I. S. BANGS.

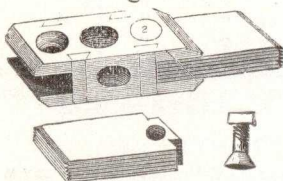
Mr. Bangs has one of the largest sizes, with two sets of four and three sets of eight cuts or plates.

Fig. 92. Wedge Lead for Setting Monuments etc. DIAGRAMS.



The above are full sized diagrams.

Fig. 93.



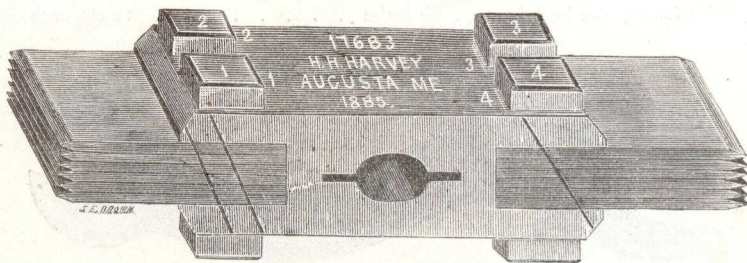
PATENT MOULDING BUSH HAMMER.

The above hammer is suitable for all stonecutters, and I present it as a great improvement over the old styles. It being flush, with no gibbs projecting, it is especially adapted to moulders' use. It is made solid with two lateral pieces of steel on either side, dovetailed in with countersunk heads securely fastened. Those pieces form a recess for the seat of the cuts, and are flush with the hammer. The hammer is furnished with either two or four square or countersunk headed bolts, as ordered; but the common sizes, with two bolts and square heads, will be sent when not otherwise ordered. This is a new hammer, but is giving entire satisfaction to the many testimonials I have plainly show. I am also the patentee of this hammer, and shall prosecute all infringers of the same.

	Width of hammer,	Jaws open.	Weight.	Price.
Engravers' size, with two bolts	1 3/4 in.	3/8 or 1/2 in.	3 1/4 lbs.	\$4.50 each.
Common Thumb size	1 1/2 "	5/16 or 3/8 "	2 "	4.00 "

The hammer is warranted to give perfect satisfaction.

Fig. 93 1/2



DOUBLE JAWED AND FLUSH GIBBED BUSH HAMMER.

Fig. 93 1/2 are made from solid wrought steel; no difference from Fig. 94, only that the gibbs are flush with the poles and 1 in. of the centre of the gibbs are set into the cuts 1/4 in. deep, to keep them from any side motion. The bolts are all wrought steel. The hammer is solid and perfect.

Price is the same as Fig. 94. on next page. Bright finish only.

GRANITE HAMMERS AND TOOLS OF ALL KINDS A SPECIALTY.

Discount on figs.

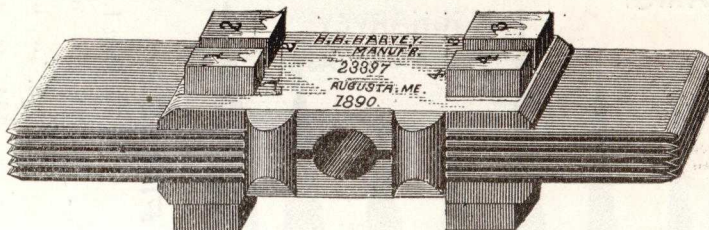
PRICES OF FIG. 92.

100 LB. LOTS.	7c. PER LB.
50 "	7 1/4 c. "
25 "	7 1/2 c. "
10 "	7 3/4 c. "
We charge 60c, extra for wooden reel for 100 lbs.	
"	50 "
"	25 "

Steel and Tampico Brushes for Granite and Marble. see p 35.

GRIND STONES ALSO THE BENCHES FOR THE SAME.

Fig. 94.



STONECUTTERS' COMMON STYLE OF BUSH HAMMER.

Figs. 93½ and 94.		Jaws open.	Weight.	Price.	Black finish. Price.
Size 0, or extra large size		1 in.	about 10½ lbs.	\$5.00	\$4.50
" 1, or large size		1½ "	" 9½ "	5.00	4.50
" 2, or common size		2 "	" 8½ "	4.75	4.25
" 3, or medium light		2½ "	" 7½ "	4.75	4.25
" 4, " "		3½ or 4 "	" 7 "	4.50	4.00
" 5, or light size		4½, 5, or 6 "	" 5½ "	4.50	4.00

Any number of cuts, up to 12 in each end, are put in the above hammer as ordered. The main body or pole of our bush hammers is made of wrought steel; so also are the bolts and gibbs. Every part is nicely planed, fitted, and polished.

RE-FILLING BUSH HAMMERS.

When six or more old bush hammers are sent at one time, the express one way will be allowed. To save expense of sending hammer pole, send me an old, good-fitting cut in mail for each end, or a correct drawing on stiff cardboard, showing the position of holes, or an impression is best. Also state the width of gibb and number of cuts wanted for each end, and I can give you perfect fit.

PRICE OF NEW CUTS.

Cuts fitted and drilled and sharpened	\$.75 per end, net.
" " and not sharpened	.70 " "
" not drilled and not sharpened	.60 " "
Steel cut to length, width, and thickness, and not fitted,	.40 " "
New gibbs	.60 each.

The above bush hammers are all tested before leaving the shop, and are warranted solid and perfect. The very best of steel is used for the cuts. An extra charge of 25 cts. will be made for cross eye.

Fig. 94¼.



SOLID STEEL BUSH HAMMER BOLT AND NUT.

Price for any size bush hammer we make	12 cts. each.	Polished,
	10 " "	Black

Fig. 94½.



POLISHED WROUGHT STEEL BUSH HAMMER WRENCH.

Each end is different, just right for our bush hammers 90 cts. each.

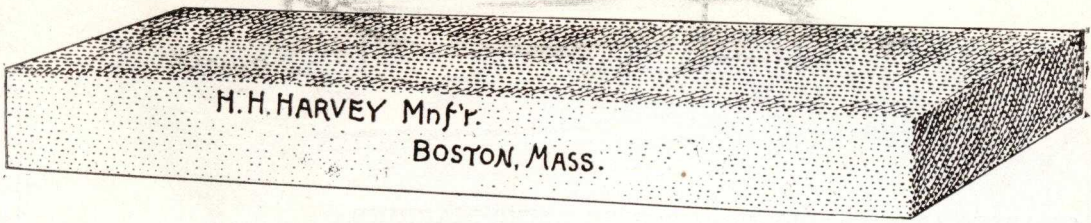
Large end fitted for size 0; small end fitted for size 3. We can fit them to any size desired.

Same as above made from steel casting 75 cts. each.

SEND FOR OUR BOTTOM PRICE ON LARGE LOTS BEFORE PLACING ORDERS.

Discount on figs. _____

Fig. 1001.

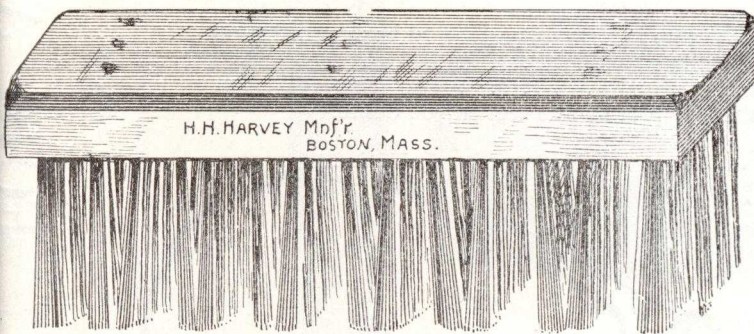
**BEST QUALITY EMERY BRICKS for Rubbing Granite or Marble.**

Size 8 inches long 2 in. wide and 1 in. thick. - - - Price \$0.40 each.

Price - - - - - 4.00 per dozen

" - - - - - 45.00 " gross

Fig. 1004.

**BEST QUALITY WIRE BRUSH for GRANITE POLISHERS.**

Single brush - - - 30 cts. each.

" dozen lot - - - \$3.00 per doz.

Gross lots - - - 33.00 " gross.

Fig. 1003.

**TAMPICO BRUSHES FOR GRANITE POLISHERS.**

Single brush - - - 20 cts. each.

" dozen lots - - - \$2.00 per doz.

Gross lots - - - 21.00 " gross.

Discount on figs.

Wholesale and Retail.

Chilled Iron Shot,
Putty Powder, Grit,
Feltg, Jacketing,
Calcined Plaster,
Crocus, Pumice Stone,
Broken Stone, Files,
Chalk, Broken Emery
Wheels.

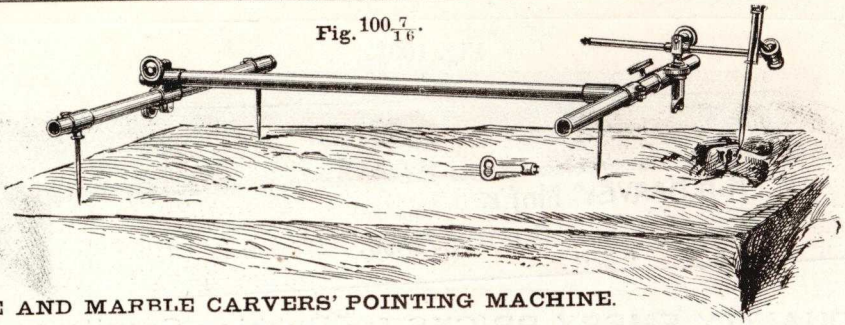
We make a specialty of
everything connected with
the granite business.

AT WHOLESALE AND RETAIL.

Fig. 1002.



For list price see page 27.

Fig. 100 $\frac{7}{16}$.**GRANITE AND MARBLE CARVERS' POINTING MACHINE.**

The above machines are made from double thick brass pipe, *nickel-plated*. All its joints are adjustable. The points are best cast steel. It has a knuckle joint at the finger bar. The needle may be placed on any section of the machine, being interchangeable.

The machine was gotten up by a practical sculptor and thorough mechanic, and it is the best machine for the purpose we ever saw, and no sculptor can afford to be without one.

The middle section, as we generally sell them, is 2 ft. 4 in. long. The cross sections are 1 ft. 8 in. long.

Price of machine, as above, put up in a strong pasteboard box . . . \$25.00

Same, put up in a walnut box, lined and lock . . . 28.50

Double thick extra pipe nickel-plated . . . 60 cts. per ft. extra.

When ordering, please state the length of middle section you desire.

Fig. 100 $\frac{3}{4}$.

These Calipers are double-jointed, Norway iron, brass-lined, and brass heads. The lengths given are with the legs straight.

Size 1, legs 12 in. long,

			\$3.00 per pair
"	2,	" 18	" 3.50 "
"	3,	" 24	" 4.00 "
"	4,	" 30	" 5.00 "
"	5,	" 36	" 6.00 "

Other sizes made to order.

Shipped bent or straight as desired.

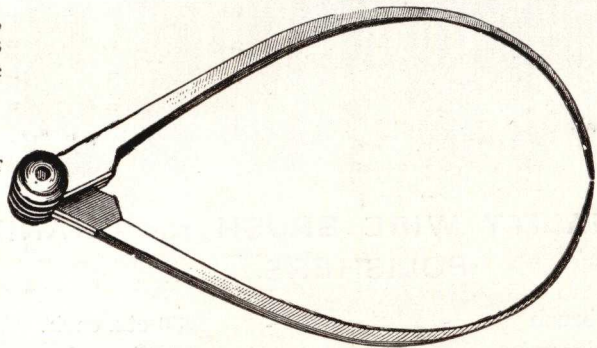
**GRANITE CARVERS' CALIPERS.**Fig. 101 $\frac{1}{2}$.**MOULDING PICKS.**

Fig. 101.



Fig. 101 $\frac{1}{2}$ made from best tool steel, 1 $\frac{1}{2}$ in. wide, 6 to 7 in. long
75 cts. each.

Moulding tools made to any pattern or drawing at lowest prices.

STONECUTTERS' PEAN HAMMER.

Made from best crucible pean hammer steel.

Fig. 101 Stone Cutters' Pean Hammer already to use, with nice oval eye - 11 $\frac{1}{2}$ cts. per lb. net.

The same punched with oval eye, drawn and ground but not tempered - 9 $\frac{1}{2}$ " "

" " shaped in the bar, not cut apart - 8 $\frac{1}{2}$ " "

Polishing - Machines - and - Supplies

Discount on figs. _____

STEEL FOR ALL PURPOSES

Cast Iron Balls for Qu...

Hard Wood Rolls All Sizes and Lengths.

**WEDGES & SHIMS OF ALL
KINDS, PAVERS HAMMERS
AND TOOLS, ALL KINDS
OF QUARRY SUPPLIES.**

Rolls Fig. 101 $\frac{3}{4}$, Diam.	4	5	6	7	8	9	10	11	12	inches.
Price per ft. single roll	10c	15c	22c	30c	38c	48c	60c	75c	90c	per ft.

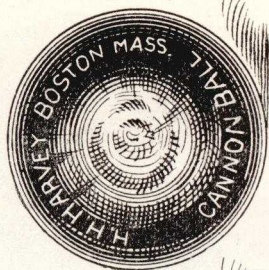
Iron Balls, Fig. 101 $\frac{3}{4}$, Price all sizes - - - - - 4c per lb.Fig. 101 $\frac{3}{4}$.

Fig. 102.

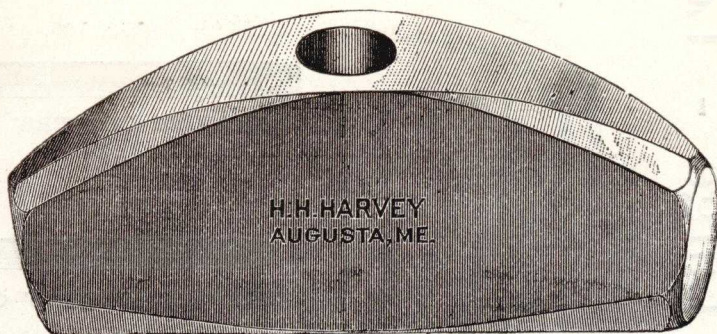


Fig. 103.

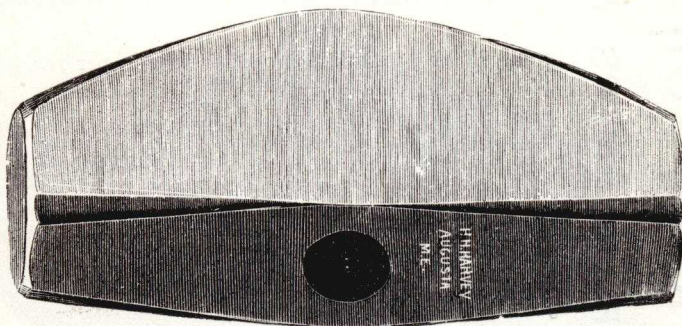
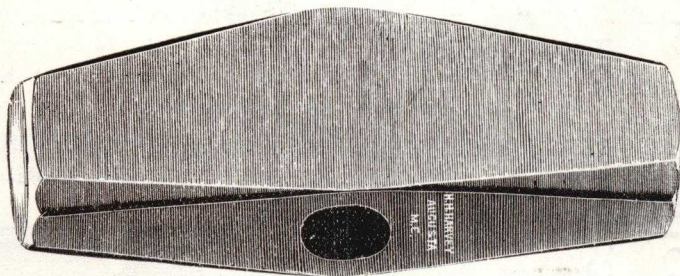


Fig. 104.



GRANITE CUTTERS' AND QUARRYMEN'S HAND AND CHISELLING HAMMERS.

Made from American crucible solid cast steel, having polished faces and small true eye.
Give size of eye desired if convenient.

Stonecutters', Fig. 102, is straight, or nearly so, on side toward the handle.

" " 103, is some tapering on side toward the handle.

Quarrymen's, " 104, is more tapering on side toward the handle.

From 3 $\frac{1}{2}$ to 5 lbs.	30	cts. per lb.
" 2 $\frac{1}{2}$ to 3 $\frac{3}{4}$ "	34	" "
" 2 to 2 $\frac{3}{4}$ "	40	" "
" 1 $\frac{1}{2}$ to 1 $\frac{3}{4}$ "	46	" "
" 1 to 1 $\frac{1}{8}$ "	55	" "

When made to order, from *English* crucible solid cast steel, 10 cts. per lb. extra will be charged. When polished all over, 50 cts. each extra will be charged.

See also Figs. 128 and 129, California style hand hammers, with large eyes.

Discount on figs.

WE MANUFACTURE ALL OUR HAMMERS AND TOOLS.



Fig. 105 $\frac{1}{4}$.



GRANITE CUTTERS' CHISEL

PRICE FOR STONECUTTERS' POINTS AND CHISELS.

Sharpened ready for use. Made from best crucible tool steel, quarter octagon.

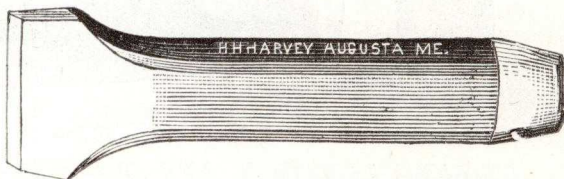
1 in., $\frac{15}{16}$ or $\frac{7}{8}$ in. cut, 8 inches or longer, per 100 tools					Best American.				
							per lb.		8 cts. net.
$\frac{13}{16}$ "	"	"	"	"	"	"	-	-	8 $\frac{1}{2}$ "
$\frac{3}{4}$ "	"	"	"	"	"	"	-	-	9 "
$\frac{11}{16}$ "	"	"	"	"	"	"	-	-	9 $\frac{1}{2}$ "
$\frac{5}{8}$ "	"	"	"	"	"	"	-	-	10 "
$\frac{9}{16}$ "	"	"	"	"	"	"	-	-	11 "
$\frac{1}{2}$ "	"	"	"	"	"	"	-	-	12 "
$\frac{7}{16}$ "	"	"	"	"	"	"	-	-	14 "
$\frac{3}{8}$ "	"	"	"	"	"	"	-	-	16 "

 Special prices made on ton lots.

Figs. 105 and 105½	in lots of from 50 to less than 100	tools advance ¼c per lb.
" " " "	" " 25 to " 50	" " ½c "
" " " "	" of less than 12 to " 25	" " 1c "
" " " "	" " " 12 - - -	25 cts. each

The above nicely headed and drawn, but not sharpened, will be one cent each less.

Fig. 105^{3/8}.



GRANITE CUTTERS' PITCHING TOOL.

Made from any size best crucible granite tool steel, straight or bevelled face, as desired.

Made from	1 $\frac{1}{4}$ in. steel, with	2 $\frac{1}{2}$ in. to 3 in. blade	. . . . .	50 cts. each.
"	1 $\frac{1}{8}$ " " "	2 " to 2 $\frac{1}{2}$ " "	. . . . .	45 " "
"	1 " " "	1 $\frac{1}{2}$ " to 2 " "	. . . . .	40 " "
"	$\frac{7}{8}$ " or 1 in. steel, with	1 $\frac{1}{4}$ in. blade	. . . . .	35 " "
"	$\frac{5}{8}$ " or $\frac{3}{4}$ " " "	1 " to 1 $\frac{1}{4}$ " "	. . . . .	35 " "
"	$\frac{3}{8}$ " or $\frac{1}{2}$ " " "	$\frac{3}{4}$ " to 1 " "	. . . . .	30 " "

Stone Dogs, - Chains, - Tongs and Vises.
Blacksmiths' Forges & Tools, Derricks, Jacks, Anvils.

Discount on figs.

Fig. 105½.

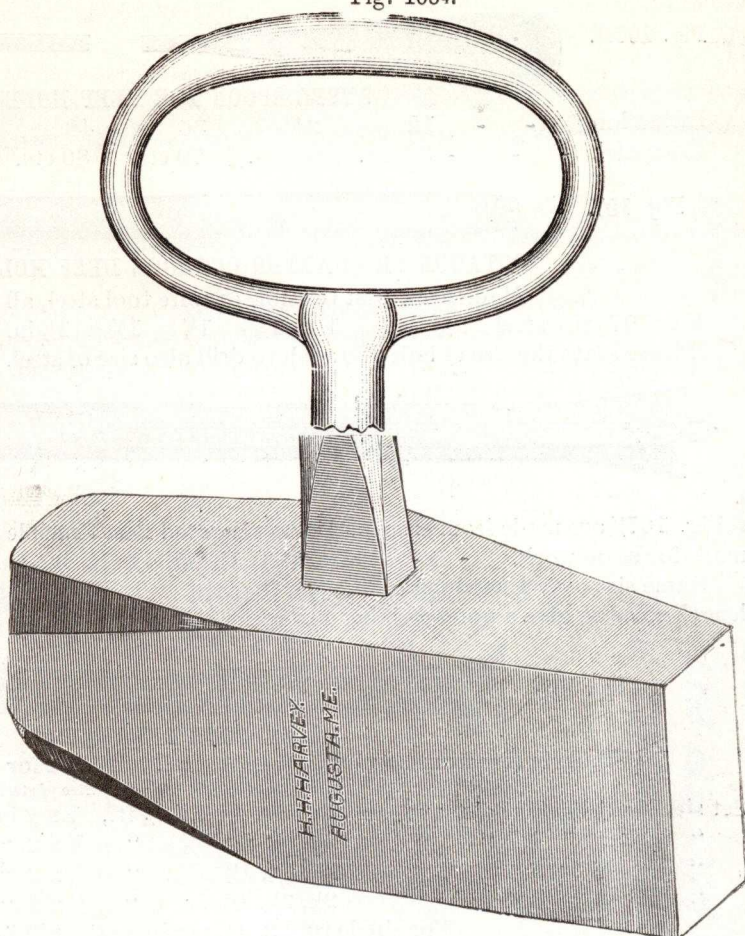


Granite Cutters' Bull Sett.

Made from best solid granite tool steel.
 6 lbs. up - - 18 cts. per lb.
 5 " to 5½ lbs. - 20 " "
 4 " to 5½ " - 22 " "

Same price with Iron Handle.

Fig. 105¼.



Granitecutters' Bull Sett with Iron Handle.

Fig. 106.



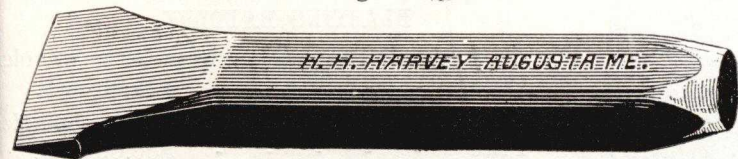
GRANITE DRILLS.

Made from quarter octagon best crucible granite tool steel, cut 11 inches or longer, drawn 15 to 18 inches long, sharpened ready for use.

When ordered in full packages of 100 drills or more	-	-	-	-	-	-	-	-	-	price 8½ cts. per lb.
" " " lots of 50 or less than 100	-	-	-	-	-	-	-	-	-	" 9 " "
" " " 12 " 50	-	-	-	-	-	-	-	-	-	" 9½ " "
" " " 6 " 12	-	-	-	-	-	-	-	-	-	" 10½ " "
" " " 1 " 6	-	-	-	-	-	-	-	-	-	" 30 " each.

Small or pavers drills from 12 to 14 inches long, 3 cts. per lb. extra. Granite drills made to order any size and for any purpose. Please give size of stock to be made from; also size of hole the drill is to cut, and about the length you desire the drill when ready to use. A reduction of one cent each for drills ordered not sharpened; also a special low price will be made when ordered in large lots.

Fig. 106¼.



LINE TRACER.

Fig. 106½.

Line Tracer made from best crucible granite tool steel.

Made from ¾ in., 1½ in., or 1¼ in. quarter octagon steel, 7½ to 9 in. long.

Per dozen - - 12½ cts. per lb.

When less than 6 tools are wanted the price will be 20 to 40 cts each according to size ordered.

Fig. 106½.

Made from best cast steel, tempered, polished all over - - - 25 cts. each.

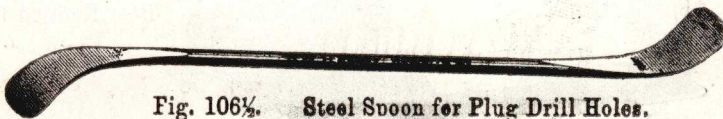
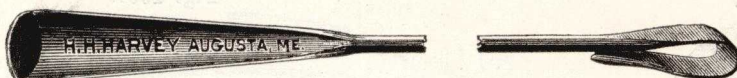


Fig. 106½. Steel Spoon for Plug Drill Holes.

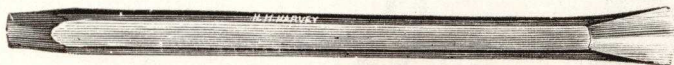
Discount on figs. _____

Fig. 106¾.

**STEEL SPOON FOR DEEP HOLES.**

Inches long	-	-	12	24	36	48	60	72	84 inches.
Price each	-	-	50 cts.	60 cts.	70 cts.	80 cts.	90 cts.	\$1.00	\$1.10 each.

Fig. 107.

**OCTAGON OR QUARTER OCTAGON DEEP HOLE BLAST DRILL.**

Made from Best Crucible granite tool steel, all lengths in stock.

Fig. 107 Size steel	¾	¾	1	1½	1¼	1½	1½ in.	-	-	Price 10 cts. per lb.
Please state the size of hole you wish to drill also size of steel. Special low price on large lots,										



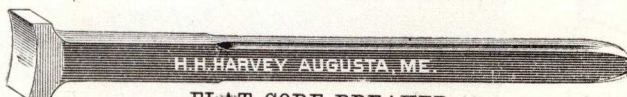
Fig. 107½.

**HAND CRUCIFORM
Deep Hole Blast Drill.**

Fig. 107½ are made from cruciform or corrugated Best Crucible Granite Tool Steel. These drills are made for seam work. - - Size steel 1¼ 1½ 1½ 1½ in. from 1 to 4 feet long 10 cts. per lb.

Same size over 4 feet long cost 2c per lb extra. We fill in at the head and weld 6 to 8 inches in length so as to give a good striking surface.

Fig. 107½.

**FLAT CORE BREAKER.**

Made in sets from best crucible cast steel. Fitted for steam drill when desired.

		Length of tools.		Size of steel.		Size of blade.		Price per lb.	
Set size No. 1 has 5 tools, one each,		2½,	3½,	4½,	5½	6½ ft.,	1 x 2 in. 1½ x 3¼ in.	in full sets,	14 cts.
"	" 2 " 4 "	"	"	"	"	"	¾ x 2 " 1 x 3 "	"	16 "
"	" 3 " 3 "	"	"	"	"	"	¾ x 2 " ¾ x 2¾ "	"	18 "
"	" 4 " 3 "	"	"	"	"	"	¾ x 2 " ¾ x 2½ "	"	20 "

For single tool 2 cts. per lb. extra will be charged.

Fig. 108. **DIAMOND-POINTED BLAST
DRILL.**

Used for drilling soft seamy rock. Made from best solid crucible granite tool steel. Octagon or quarter octagon.

Size of steel ¾ in. ¾ in. 1 in. 1½ in. 1¼ in. 11c per lb. Special low prices on large lots.

Fig. 107¾.

BLASTING BATTERY.

No. 3 Blasting battery will fire from	20 to 30 holes
Price	\$25.00 each.
No. 4 Blasting battery will fire from	20 to 50 holes
Price	\$50.00 each.

Best Refined Borax	-	-	-	20c per lb.
"	"	10 lb. lot or more	15c	" "

Discount on figs.

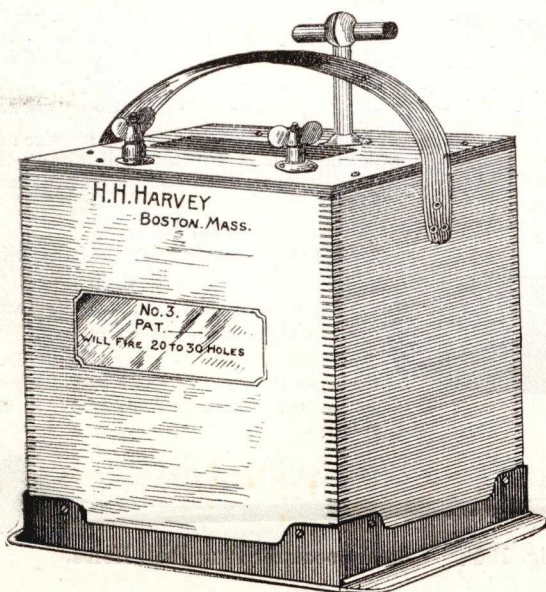
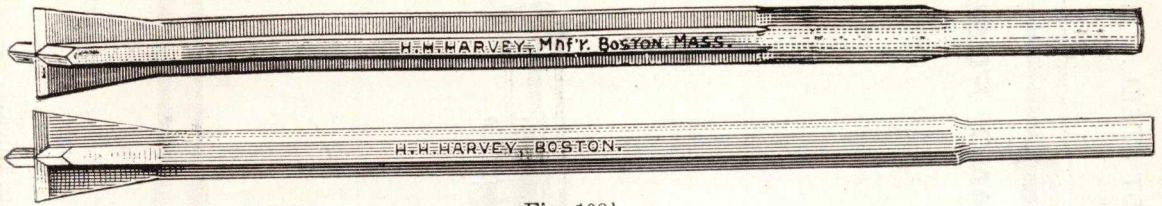


Fig. 108 $\frac{1}{16}$.

Cruciform steam drill bit made from corrugated Best Crucible Granite Tool Steel, all lengths to 25 feet. These drills are easier for the machine, clears better and are sharpened quicker.

Fig. 108 $\frac{1}{2}$.

Regular steam drill bit made from Octagon Best Crucible Granite Tool Steel.

Made in all the lengths to 35 feet or even longer if desired.

Sizes and Prices for Elther Octagon or Cruciform Drill Bits for either Sargeant or Ingersoll Drills. See next page for the Rand and other drill bits.

SIZES AND PRICES.

Ready for use.

The Bits are made large enough to clear.

FOR DRILL A.

Diameter of Cylinder, $\begin{cases} 1\frac{3}{4}$ in. Ingersoll. \\ 2 in. Sergeant. \end{cases}
Shank, $\frac{5}{8}$ in. \times 3 in.
Feed, 12 in.

Length of Steel.	Size of Steel.	Weight.	Price.
1 ft.	$\frac{3}{4}$ in.	3 lbs.	\$1.43
2 "	"	5 "	1.65
3 "	"	7 "	1.87

FOR DRILL B.

Diameter of Cylinder, . . . $2\frac{1}{2}$ in. Ingersoll.
Shank, $\frac{1}{2}$ in. \times 4 $\frac{3}{4}$ in.

Length of steel	Size of steel	Weight	Price
1 ft. 8 in.	1 in.	7 lbs.	\$1.87
3 " 4 "	"	9 "	2.09
5 "	"	13 "	2.53

FOR DRILL C.

Diameter of Cylinder, . . . $\begin{cases} 2\frac{3}{4}$ in. Ingersoll. \\ 2 $\frac{1}{2}$ in. Sergeant. \end{cases}
Shank, 1 in. \times 5 in.
Feed $\begin{cases} 20$ in. Ingersoll. \\ 24 in. Sergeant. \end{cases}

Length of steel	Size of steel	Weight	Price
1 ft. 8 in.	1 $\frac{1}{2}$ in.	9 lbs.	\$2.09
3 " 4 "	1 $\frac{1}{2}$ "	15 "	2.75
5 " 0 "	1 "	16 "	2.86
6 " 8 "	1 "	21 "	3.41
8 " 4 "	1 "	26 "	3.96

FOR DRILL D.

Diameter of Cylinder, . . . $\begin{cases} 3$ in. Ingersoll. \\ 3 in. Sergeant. \end{cases}
Shank, 1 in. \times 5 in.
Feed 24 in.

Length of steel	Size of steel	Weight	Price
2 ft.	1 $\frac{1}{2}$ in.	10 lbs.	\$2.20
4 "	1 $\frac{1}{2}$ "	18 "	3.08
6 "	1 "	19 "	3.19
8 "	1 "	24 "	3.74
10 "	1 "	30 "	4.40
12 "	1 "	35 "	4.95

For Drill E.

Diameter of Cylinder, . . . $\begin{cases} 3\frac{1}{2}$ in. Ingersoll. \\ 3 $\frac{1}{2}$ in. Sergeant. \end{cases}
Diameter of Cylinder, . . . 3 in. Sergeant.
Shank, 1 $\frac{1}{2}$ in. \times 5 in.
Feed, 24 in.

Length of Steel.	Size of Steel.	Weight.	Price.
2 ft.	1 $\frac{1}{2}$ in.	11 lbs.	\$2.31
4 "	1 $\frac{1}{2}$ "	20 "	3.30
6 "	1 $\frac{1}{2}$ "	24 "	3.74
8 "	1 $\frac{1}{2}$ "	31 "	4.51
10 "	1 $\frac{1}{2}$ "	38 "	5.28
12 "	1 $\frac{1}{2}$ "	46 "	6.16

FOR DRILL F.

Diameter of Cylinder, . . . $\begin{cases} 3\frac{1}{2}$ in. Ingersoll. \\ 3 $\frac{1}{2}$ in. Sergeant. \end{cases}
Shank, $\begin{cases} 1\frac{1}{2}$ in. \times 5 $\frac{1}{2}$ in. Ingersoll. \\ 1 $\frac{1}{2}$ in. \times 5 in. Sergeant. \end{cases}
Feed 24 in.

Length of steel	Size of steel	Weight	Price
2 ft.	1 $\frac{1}{2}$ in.	14 lbs.	\$2.64
4 "	1 $\frac{1}{2}$ "	25 "	3.85
6 "	1 $\frac{1}{2}$ "	36 "	5.06
8 "	1 $\frac{1}{2}$ "	39 "	5.39
10 "	1 $\frac{1}{2}$ "	48 "	6.38
12 "	1 $\frac{1}{2}$ "	57 "	7.37

FOR DRILL G.

Diameter of Cylinder, . . . 4 $\frac{1}{2}$ in. Ingersoll.
Shank, 1 $\frac{1}{2}$ in. \times 6 in.
Feed 30 in.

Length of steel	Size of steel	Weight	Price
2 ft.	1 $\frac{5}{8}$ in.	22 lbs.	\$3.52
4 $\frac{1}{2}$ "	1 $\frac{5}{8}$ "	39 "	5.39
7 "	1 $\frac{5}{8}$ "	59 "	7.59
9 $\frac{1}{2}$ "	1 $\frac{5}{8}$ "	65 "	8.25
12 "	1 $\frac{5}{8}$ "	81 "	10.01
14 $\frac{1}{2}$ "	1 $\frac{5}{8}$ "	98 "	11.88

FOR DRILL H.

Diameter of Cylinder, . . . 5 in. Ingersoll.
Shank, 1 $\frac{1}{2}$ in. \times 6 in.
Feed 30 in.

Length of steel	Size of steel	Weight	Price
2 ft.	1 $\frac{5}{8}$ in.	22 lbs.	\$3.52
4 $\frac{1}{2}$ "	1 $\frac{5}{8}$ "	39 "	5.39
7 "	1 $\frac{5}{8}$ "	59 "	7.59
9 $\frac{1}{2}$ "	1 $\frac{5}{8}$ "	65 "	8.25
12 "	1 $\frac{5}{8}$ "	81 "	10.01
14 $\frac{1}{2}$ "	1 $\frac{5}{8}$ "	98 "	11.88

BITS MADE FOR ANY KIND OF DRILLS.
STATE SIZE OF STARTER BIT.
ALSO LENGTH WANTED, SIZE & LENGTH OF SHAFT.

TRY OUR CRUCIFORM BITS YOU WILL LIKE THEM.

Discount on figs.

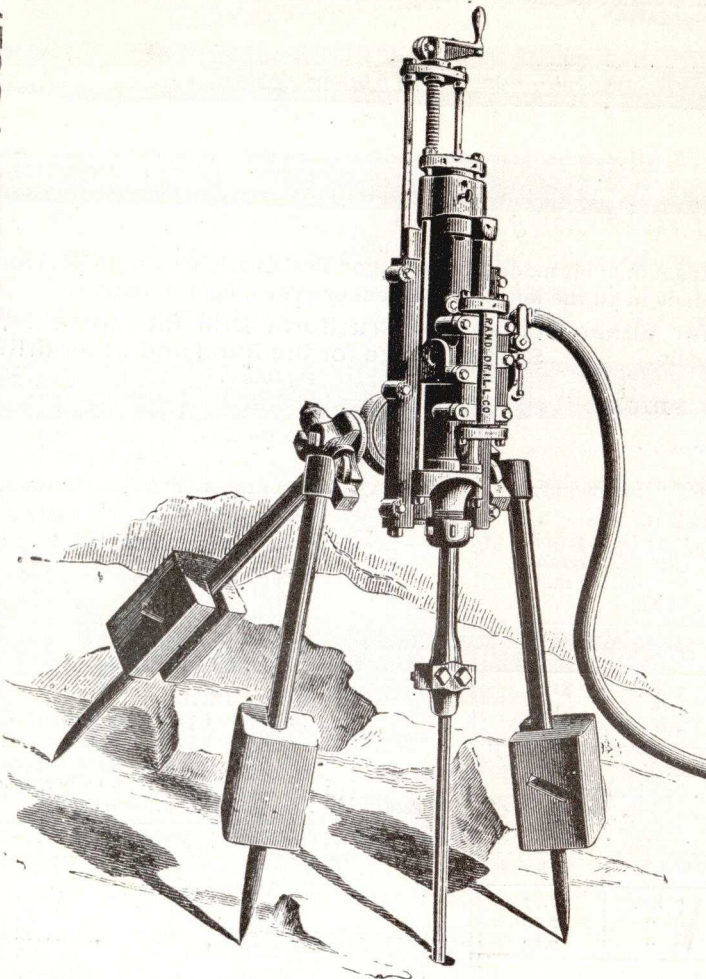
Fig. 108 $\frac{3}{16}$.

STEAM DRILL BIT MADE FROM OCTAGON CRUCIBLE CAST STEEL.

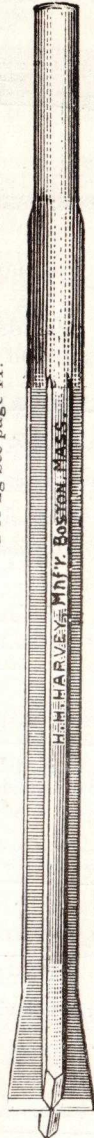
For fig See page 41.



FORCITE POWDER, BATTERIES AND FUSE.



For fig See page 41.



STEAM DRILL BIT MADE FROM CRUCIFORM GRANITE TOOL STEEL. We recommend these bits as superior to the octagon bits. These bits are grooved nearly the entire length, they clear better, sharpen easier. And Norway iron being welded in at the shank they are not liable to break off at that place.

Cartridges All Sizes, Common sizes 6 to 8 inches long and $\frac{3}{8}$ to 2 inches thick.

THE RAND CELEBRATED STEAM DRILL.

We manufacture drill bits for any make of steam drills. See previous page for specifications of the Sargeant and Ingersol drill bits. In ordering bits state depth of the hole proposed to drill, also the name and number of the machine. Heavier or lighter steel than that given in the list can be furnished.

THESE SIZES GIVEN BELOW ARE ALSO RIGHT FOR THE MCKERNON DRILL BITS.

Bits for Kid Drill.					Bits for No. 1 Drill.					Bits for No. 2 Drill.				
Made from $\frac{5}{8}$ in. Octagon or $\frac{7}{8}$ in. Cruciform Steel.					Made from $\frac{3}{4}$ in. Octagon or 1 in. and $1\frac{1}{8}$ in. Cruciform Steel.					Made from 1 in. Octagon or $1\frac{1}{8}$ and $1\frac{1}{4}$ in. Cruciform Steel.				
Size of Shank.	Depth of Hole drilled by each set of steels.	Name of each succeeding length of Steel.	Regular Size of Bit.	Price each.	Size of Shank.	Depth of Hole drilled by each set of Steels.	Name of each succeeding length of Steel.	Regular Size of Bit.	Price each.	Size of Shank.	Depth of Hole drilled by each set of Steels.	Name of each succeeding length of Steel.	Regular size of Bit.	Price each.
$\frac{3}{8} \times 2\frac{1}{2}$ in.	0 ft. 10 in.	Starter	$1\frac{1}{8}$ in.	\$1.27	$\frac{3}{4} \times 4\frac{1}{2}$	1 ft. 3 in.	Starter	$1\frac{1}{4}$ in.	\$1.50	1 x $5\frac{1}{4}$	1 ft. 6 in.	Starter	2 3-16 in.	\$1.87
" "	1 " 8 "	2d length	1 1-16 "	1.49	" "	2 " 6 "	2d length	1 3-16 "	1.85	" "	3 " 0 "	2d length	2 "	2.35
" "	2 " 6 "	3d "	1 "	1.71	" "	3 " 9 "	3d "	$1\frac{1}{8}$ "	2.25	" "	4 " 6 "	3d "	$1\frac{7}{8}$ "	2.85
					" "	5 " 0 "	4th "	1 1-16 "	2.65	" "	6 " 0 "	4th "	$1\frac{3}{4}$ "	3.35
					" "	6 " 3 "	5th "	1 "	3.05	" "	7 " 6 "	5th "	$1\frac{5}{8}$ "	3.85
					" "	7 " 6 "	6th "	15-16 "	3.55	" "	9 " 0 "	6th "	$1\frac{1}{2}$ "	4.40
										" "	10 " 6 "	7th "	$1\frac{3}{8}$ "	5.00
										" "	12 " 0 "	8th "	$1\frac{1}{4}$ "	5.60

For Nos. 3, 4 and 5 drill bits see next page.

Cash discount on single bits 10 per cent. Extra discount

on one dozen or more at one time.

BITS for the RAND DRILLS.

Continued from previous pages. When ordering bits state the depth of hole you desire to drill, also the name and number of the machine.

No. 3, Drill Bits.					No. 4 Drill Bits.					No. 5 Drill Bits.				
Made from 1½ in. Octagon or 1¼ or 1⅜ in. Cruciform steel.					Made from 1¼ inch Octagon or 1½ inch Cruciform Steel.					Made from 1¾ inch Octagon or 1⅝ inch Cruciform Steel.				
Size of Shank.	Depth of Hole drilled by each set of Steels.	Name of each succeeding length of Steel.	Regular size of Bit.	Price each.	Size of Shank.	Depth of Hole drilled by each set of Steels.	Name of each succeeding length of Steel.	Regular size of Bit.	Price each.	Size of Shank.	Depth of Hole drilled by each set of Steels.	Name of each succeeding length of Steel.	Regular size of Bit.	Price Each.
1½ x 5½	2 ft.	Starter	2⅝ in.	\$2.41	1⅜ x 6½	2 ft. 6 in.	Starter	3¼ in.	\$2.63	1½ x 6½	2 ft 6 in.	Starter	3½ in.	\$2.85
" "	4 "	2d length	2 3-16 "	3.07	" "	5 " 0 "	2d length	3⅝ "	3.57	" "	5 " 0 "	2d length	3⅝ "	4.10
" "	6 "	3d "	2¼ "	3.95	" "	7 " 6 "	3d "	3 "	4.50	" "	7 " 6 "	3d "	3¼ "	5.35
" "	8 "	4th "	2⅝ "	4.61	" "	10 " 0 "	4th "	2⅞ "	5.44	" "	10 " 0 "	4th "	3⅝ "	6.60
" "	10 "	5th "	2 "	5.49	" "	12 " 6 "	5th "	2¾ "	6.37	" "	12 " 6 "	5th "	3 "	7.85
" "	12 "	6th "	1⅞ "	6.40	" "	15 " 0 "	6th "	2⅞ "	8.00	" "	15 " 0 "	6th "	2⅞ "	9.10
" "	14 "	7th "	1¾ "	7.40	" "	17 " 6 "	7th "	2½ "	9.75	" "	17 " 6 "	7th "	2⅝ "	11.25
" "	16 "	8th "	1⅝ "	9.00	" "	20 " 0 "	8th "	2⅜ "	12.43	" "	20 " 0 "	8th "	2½ "	13.55
" "	18 "	9th "	1½ "	10.60	" "	22 " 6 "	9th "	2¼ "	16.73	" "	22 " 6 "	9th "	2⅜ "	
					" "	25 " 0 "	10th "	2⅝ "	22.50	" "	25 " 0 "	10th "	2¼ "	
					" "					" "	27 " 6 "	11th "	2½ "	
										" "	30 " 0 "	12th "	2 "	

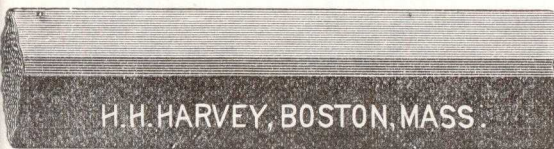
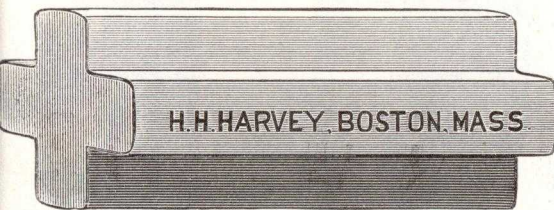
THE SIZES GIVEN ABOVE ARE ALSO RIGHT FOR THE McKERNON DRILL BITS.

Cash discount ten per cent on the above single bits, extra discount

on large lots, 12 or more at one time.

Special Steam Drill Steel, Corrugated or OCTAGON.

We carry in stock all the sizes commonly used for Steam drills. Prices given on application. State size and quantity.



Extras for long lengths of bar steel as follows.

15 ft. to 17½ ft. long	-	-	-	1c extra per lb.
18 ft. to 20½ ft. "	-	-	-	2c " "
21 ft. to 24½ ft. "	-	-	-	3c " "
25 ft. to 29½ ft. "	-	-	-	4c " "

**Forcite Powder & Fuse,
Cartridges & Blasting
Caps etc., etc. etc. Hose,
Steam Pipe & everything
needed by Quarrymen.**

**See page 41 for the
Sargeant & Ingersol Drill
bits.**

**Also Imported Norway Iron and
Best Refined Iron.**

Special Point, Drill and Chisel Steel.
We have all the sizes in the square, octagon, quarter and eighth octagon. Prices given on application.
State size and quantity.

BEST CAST STEEL FOR HAMMERS
in all the sizes.

WEDGE and HALF ROUND STEEL in all the sizes.

in. ⅝ in. ¾ in. ⅞ in. 1 in. 1⅞ in. 2 in. 2½ in. 3 in. 3½ in. 4 in. 1 in.

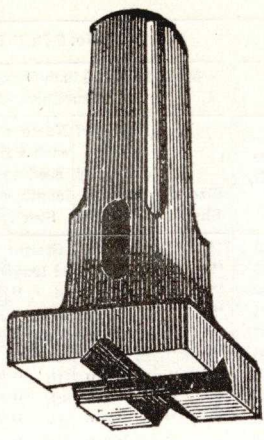
ALSO GRANITE STRAP IRON

1 in. 1½ in. 2 in. 2½ in. 3 in. 3½ in. 4 in. 1 in.

Prices given on application. State size and quantity.

STEAM & HAND DRILL BITS OF ALL KINDS, QUARRY BARS. THESE STEAM DRILL SWEDGES
AND TOOLS ARE RIGHT FOR ALL STEAM DRILL BITS.
Rolls, and Cannon Balls of all Sizes, Iron, Steel, Bellows, Avils, Vises etc., etc., etc.

Fig. 108¼.



DOLLY.

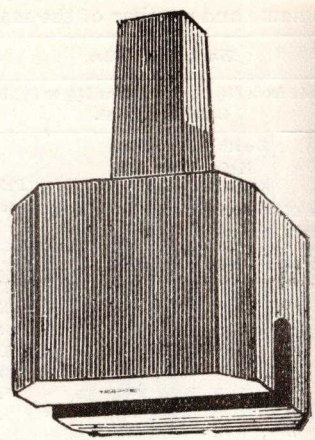
STEAM DRILL SWEDGING TOOLS.

Made from solid tool steel.

Fig. 108¼ \$2.75 each.

Fig. 108¾ 2.25 "

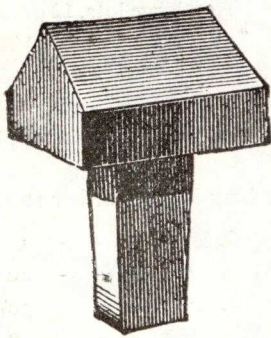
Fig. 108¾.



SOW.

State size of shank for sow.

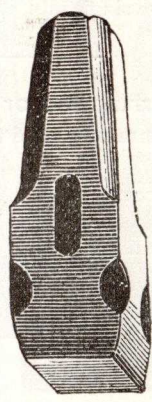
Fig. 108½.



BOTTOM SPREADER.

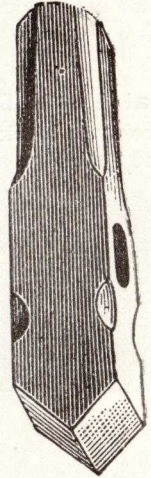
State size of shank wanted for the bottom spreader.

Fig. 108¾.



SET HAMMER.

Fig. 108¼.



TOP SPREADER.

STEAM HAMMER DRILL SWEDGING TOOLS.

Made from solid tool steel.

Please give size of the hole in the anvil.

Fig. 108¼ \$1.25 each.

Fig. 108¾ 1.25 "

Fig. 108¼ 1.25 "

Fig. 109.



CHURN BLAST DRILL.

Made from round Norway iron, and pointed with English steel; or from all steel when desired, either

English or American. Churn Drills are made to order, and must be fully described. The price will be made as low as possible. Please state size of hole you wish to drill. Common sizes made from 1 inch Norway iron, pointed with English steel, 6 to 7 feet long; always on hand at 20 cts. per lb.

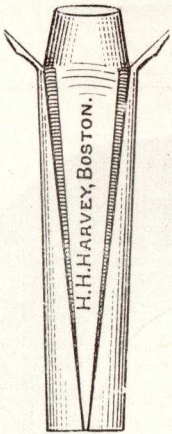
J. S. Mundy's Hoisting Engines for All Purposes.

Also Hose, Pipe, Cotton Waste, Oil, Etc., Etc.

Contractors' Supplies of all Kinds.

H. H. Harvey's Special Process Wedges and Shims.

Size A.



Size B.

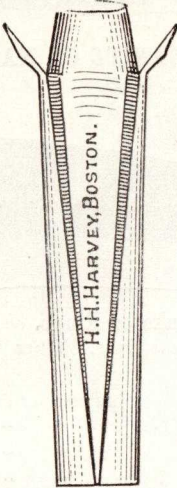
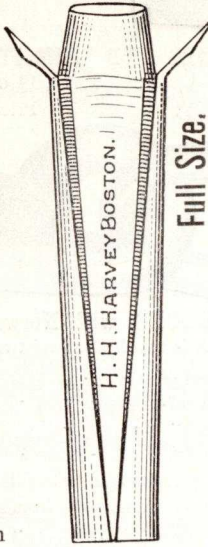
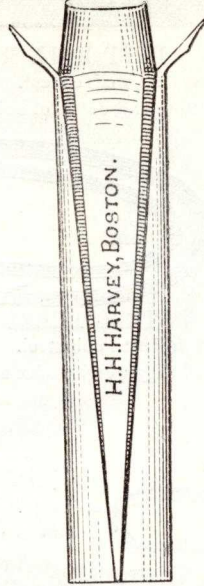


Fig. 110.

Size C.



Size D.



Full Size.

Full Size.

Full Size.

Full Size.

Whole length $2\frac{1}{4}$ in.
Size of steel 7-16 sq.
Price 20 cts. per lb.

Whole Length $2\frac{1}{2}$ in.
Size of steel $\frac{1}{2}$ x 7-16 in
Price 19 cts. per lb.

Whole length $2\frac{3}{4}$ in.
Size of steel $\frac{1}{2}$ in. sq.
Price 18 cts. per lb.

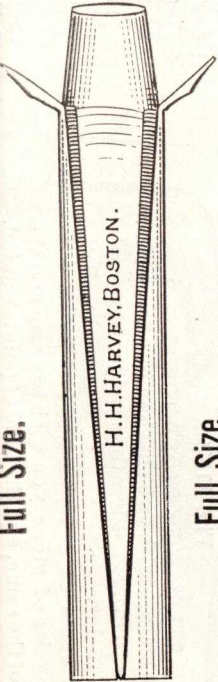
Whole length 3 inches
Size of steel $\frac{1}{2}$ in. sq.
Price 18 cts. per lb.

We make any length and size of deep hole Wedges and Shims. See next page.

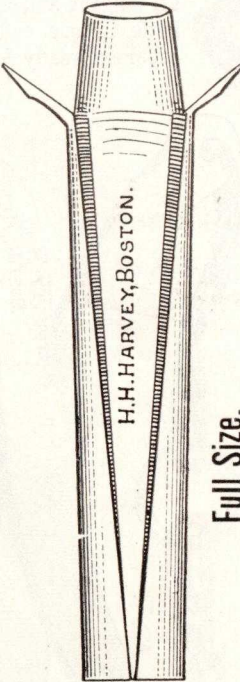
One set means one wedge and two shims.

A	100 lb. box of Size A contains about	600	set of wedges and shims
"	" " " " " " " "	"	"
"	" " " " " " " "	540	"
"	" " " " " " " "	"	"
"	" " " " " " " "	500	"
"	" " " " " " " "	"	"
"	" " " " " " " "	440	"
"	" " " " " " " "	"	"

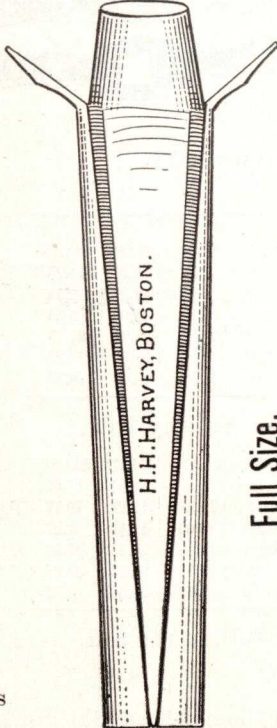
Size E.



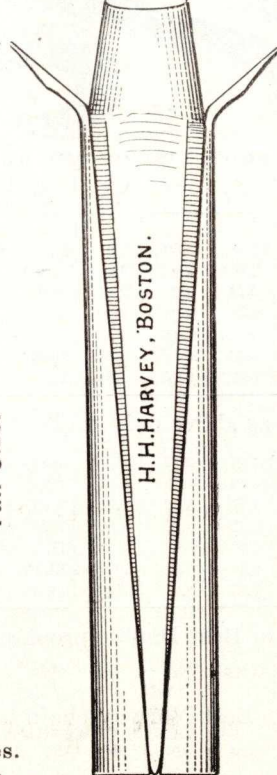
Size F.



Size G.



Size H.



Full Size.

Full Size.

Full Size.

Full Size.

Whole length $3\frac{1}{2}$ in. Whole length $3\frac{1}{2}$ inches
Size of steel $\frac{1}{2}$ inch sq. Size $\frac{1}{2}$ x 9-16 in.
Price 17 cts. per lb. Price 17 cts. per lb.

Whole length $3\frac{3}{4}$ inches.
Size of steel $\frac{3}{8}$ x $\frac{1}{2}$ inches.
Price 16 cts. per lb.

Whole Length 4 inches.
Price 16 cts. per lb.
Size of steel $\frac{3}{8}$ x $\frac{1}{2}$ in.

One set means one wedge and two shims.

A	100 lb. box of size E contains about	365	set of wedges and shims.
"	" " " " " " " "	"	"
"	" " " " " " " "	"	"
"	" " " " " " " "	300	"
"	" " " " " " " "	"	"
"	" " " " " " " "	275	"
"	" " " " " " " "	"	"
"	" " " " " " " "	250	"
"	" " " " " " " "	"	"

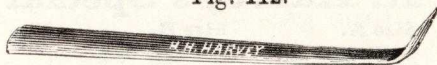
DISCOUNTS ACCORDING TO AMOUNT OF ORDER.

Discount on figs.

Fig. 111.



Fig. 112.

**DEEP HOLE WEDGES AND SHIM FOR GRANITE OR MARBLE.**

Made from the very best wedge steel. For $\frac{1}{2}$, $\frac{13}{16}$, $\frac{3}{4}$, 1, $1\frac{1}{2}$, $1\frac{3}{4}$ or $1\frac{1}{2}$ in. holes, and 6 in. deep or more, Please state size at top also at the bottom and depth of hole.

Price 14 cts. per lb.

Fig. 113.

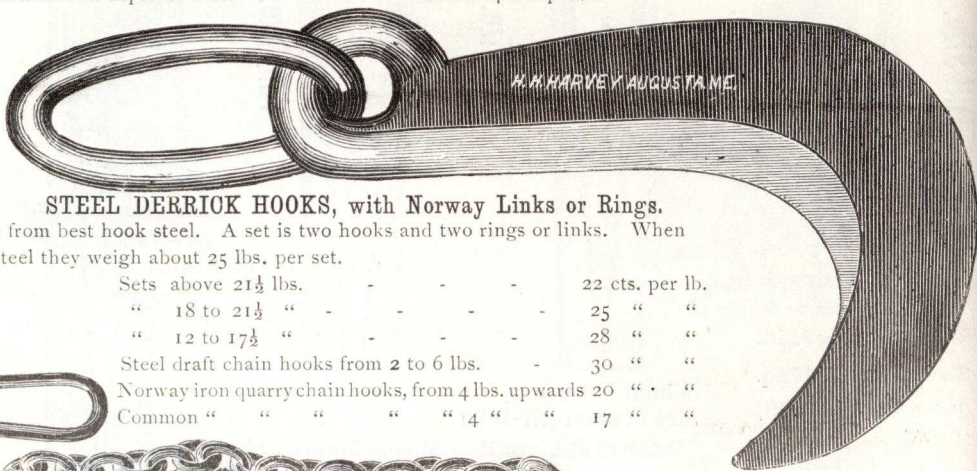
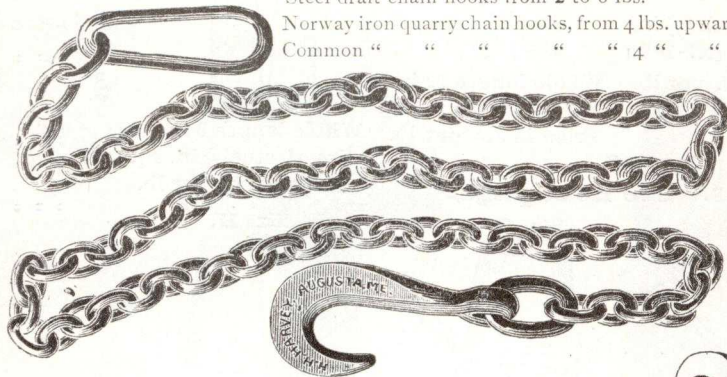
**STEEL DERRICK HOOKS, with Norway Links or Rings.**

Fig. 113. Made from best hook steel. A set is two hooks and two rings or links. When made from $1\frac{1}{2}$ in. steel they weigh about 25 lbs. per set.

Sets above $21\frac{1}{2}$ lbs.	-	-	-	-	22 cts. per lb.
" 18 to $21\frac{1}{2}$ "	-	-	-	-	25 " "
" 12 to $17\frac{1}{2}$ "	-	-	-	-	28 " "
Steel draft chain hooks from 2 to 6 lbs.	-	-	-	-	30 " "
Norway iron quarry chain hooks, from 4 lbs. upwards	20	-	-	-	" "
Common " " " " 4 " "	17	-	-	-	" "

FIG. 113 $\frac{1}{4}$.

BEST Double-Proof or B.B. DRAFT, DERRICK and QUARRY CHAINS, of all lengths and sizes, with Norway Iron hook in one end and long link in the other end ready for use.

PRICE LIST OF THE ABOVE CHAIN.

Dia.	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$1\frac{1}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1
ft.									
8	\$2.52	\$2.94	\$3.00	\$3.67	\$4.37	\$5.31	\$6.24	\$9.38	\$11.75
10	3.00	3.36	3.62	4.62	5.62	6.50	7.37	11.25	14.25
12	3.48	3.74	4.24	5.57	6.87	7.69	8.50	13.12	16.75
14	3.96	4.34	4.86	6.50	8.13	8.87	9.73	15.00	19.25
16	4.44	4.76	5.48	7.43	9.37	10.19	10.75	16.88	21.75
18	4.92	5.59	6.12	8.25	10.63	11.25	11.88	18.75	24.25
20	5.40	6.02	6.75	9.31	11.88	12.50	13.00	20.63	26.70

Same as above only made of all Norway Iron.

8	\$2.98	\$3.57	\$3.72	\$4.55	\$5.42	\$6.58	\$7.74	\$11.63	\$14.57
10	3.59	4.08	4.49	5.73	6.97	8.06	9.14	13.95	17.67
12	4.14	4.59	5.26	6.91	8.52	9.54	10.54	16.27	20.77
14	4.71	5.27	6.03	8.06	10.08	11.00	12.04	18.60	23.87
16	5.27	5.78	6.80	9.23	11.62	12.64	13.33	20.93	27.07
18	5.85	6.73	7.59	10.23	13.18	13.95	14.73	23.25	30.07
20	6.40	7.31	8.37	11.63	14.73	15.50	16.12	25.58	33.12

Price of Best Double-proof or B.B. in the coil.

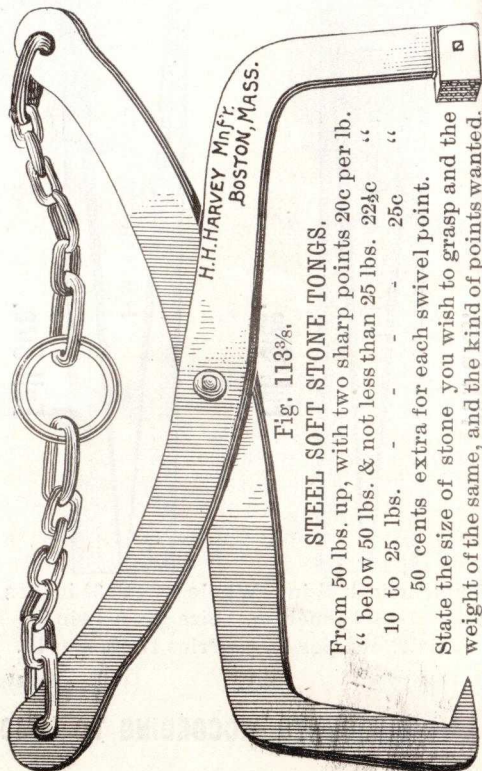
Per lb.	8c	7 $\frac{1}{2}$ c	7 $\frac{1}{4}$ c	7c	6 $\frac{1}{2}$ c	6c	6c	6c	6c
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Best Norway chain in the coil.

Per lb.	11 $\frac{1}{2}$ c	10c	9 $\frac{1}{2}$ c	9 $\frac{1}{4}$ c	9c	8 $\frac{1}{2}$ c	8 $\frac{1}{4}$ c	8 $\frac{1}{2}$ c	8 $\frac{1}{4}$ c
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Quarry Chains made to order from common coil chain will be 10% less than the double proof or BB quality of chains.

Discount on figs.

Fig. 113 $\frac{1}{2}$.**STEEL SOFT STONE TONGS.**

From 50 lbs. up, with two sharp points 20c per lb.

" below 50 lbs. & not less than 25 lbs. 22 $\frac{1}{2}$ c

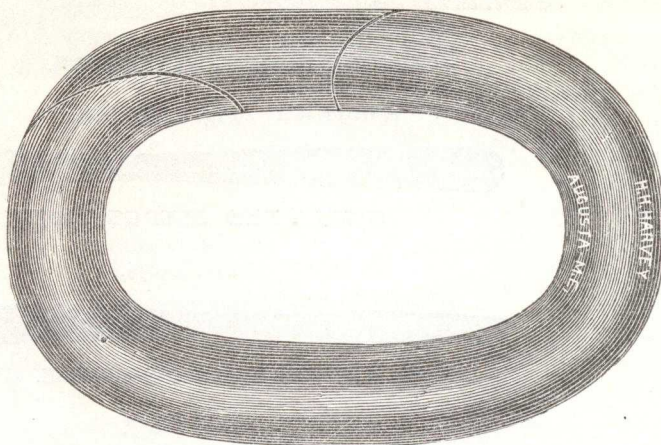
10 to 25 lbs. - 25c

50 cents extra for each swivel point.

State the size of stone you wish to grasp and the weight of the same, and the kind of points wanted.

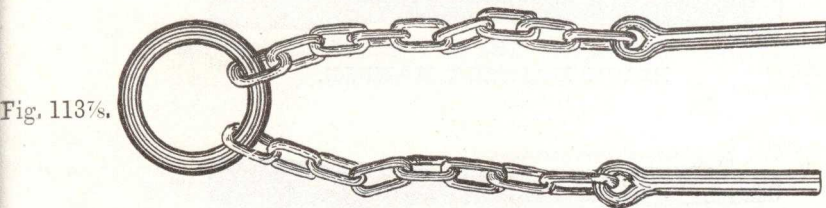
Tongs Made for All Purposes.

Fig. 113½.



ADJUSTABLE CHAIN LINKS for Repairing Chains.

$\frac{3}{16}$ in. wire, \$	.40	per dozen.
$\frac{1}{4}$ "	.58	"
$\frac{5}{16}$ "	.65	"
$\frac{3}{8}$ "	.70	"
$\frac{7}{16}$ "	.80	"
$\frac{1}{2}$ "	.88	"
$\frac{9}{16}$ "	.93	"
$\frac{5}{8}$ "	1.13	"
$\frac{11}{16}$ "	1.33	"
$\frac{3}{4}$ "	1.92	"



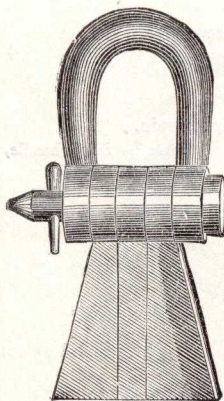
CHAIN LEWIS.

The Dogs are made from best Norway solid iron or soft Steel. No welds.

Size 1, has $\frac{3}{8}$ in. chain and $\frac{1}{2}$ in. Ring & Lewis	. . .	20 cts. per lb.
" 2, " $\frac{1}{2}$ " " " $\frac{5}{8}$ " "	. . .	18 " "
" 3, " $\frac{5}{8}$ " " " $\frac{3}{4}$ " "	. . .	16 " "
" 4, " $\frac{3}{4}$ " " " $\frac{7}{8}$ " "	. . .	14 " "
" 5, " $\frac{7}{8}$ " " " 1 " "	. . .	12 " "

Fig. 114.

NORWAY IRON STONE LEWIS.



Has cast steel pin and key; Lewis made from Norway iron. Solid, without welds. The best that can be made.

Size	Has	right for	
1, has $\frac{3}{8}$ in. shackle, $\frac{1}{2}$ in. steel pin, stone of	2,000 lbs.	\$2.00	
" 2, " $\frac{1}{2}$ " " " $\frac{5}{8}$ " "	3,000 "	2.50	
" 3, " $\frac{5}{8}$ " " " $\frac{3}{4}$ " "	5,000 "	3.50	
" 4, " $\frac{3}{4}$ " " " $\frac{7}{8}$ " "	7,000 "	4.50	
" 5, " $\frac{7}{8}$ " " " 1 " "	10,000 "	5.50	
" 6, " 1 " " " $1\frac{1}{8}$ " "	14,000 "	6.50	
" 7, " $1\frac{1}{8}$ " " " $1\frac{1}{4}$ " "	19,000 "	8.00	
" 8, " $1\frac{1}{4}$ " " " $1\frac{1}{2}$ " "	24,000 "	9.50	
" 9, " $1\frac{3}{4}$ " " " 2 " "	30,000 "	12.00	
" 10, " $1\frac{1}{2}$ " " " 2 " "	35,000 "	15.00	
" 11, " $1\frac{5}{8}$ " " " $2\frac{1}{4}$ " "	40,000 "	20.00	
" 12, " $1\frac{3}{4}$ " " " $2\frac{1}{2}$ " "	50,000 "	30.00	

In the above table we have reckoned as the proper straight lift, and only about $\frac{1}{3}$ of the breaking strain of the iron.

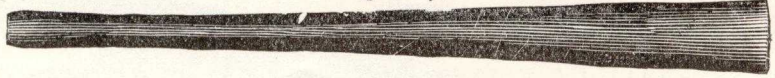
DRILLS, CORE BREAKERS,

Chains - and - Differential Hoists.

Discount on figs.

FOUR LEGGED & BREAST DERRICKS & TRIPODS.

IRON & STEEL, BLASTING BATTERIES, FUSE, SLEDGES OF ALL KINDS.
RAILROAD PICKS AND PICK EYES.

Fig. 115 $\frac{1}{8}$.

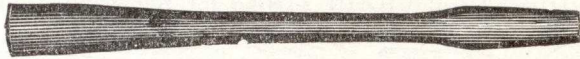
PICK AXE HANDLE.

Fig. 115 $\frac{1}{4}$.

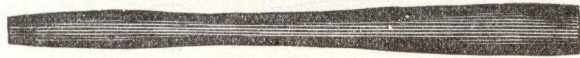
SWELL END SLEDGE HANDLE.

Fig. 115 $\frac{3}{8}$.

MACHINIST HANDLE.

Fig. 115 $\frac{1}{2}$.

BRICK HAMMER HANDLE.

Fig. 115 $\frac{3}{4}$.

NAIL HAMMER HANDLE.

Fig. 116.



TRUE TAPER SLEDGE HANDLE.

Fig. 117.



BUSH AND PEAN HAMMER HANDLE.

The above handles are all made from the toughest butts with straight grain.

		Gross Lots.	Half-gross Lots.	Single Dozen.	Single handle, selected.
Best quality, Fig. 115 $\frac{1}{8}$	or pick axe handles, 30, 32, 34, and 36 in.,	\$1.70	\$1.75	\$1.80	25 cts.
" " 115 $\frac{1}{4}$	" swell end or true taper sledge handles, 32, 34, and 36 in.	1.50	1.60	1.75	20 and 25 cts.
" " 115 $\frac{1}{2}$	" swell end or true taper sledge handles, 28 and 30 in.	1.40	1.50	1.65	20 " 25 "
" " 115 $\frac{3}{8}$ and 115 $\frac{1}{2}$	brick and nail hammer handles, 12, 13, and 14 in. . . . .	.40	.50	.60	10 cts.
" " 116	or true taper or swell end sledge handles, 32, 34 and 36 in.	1.50	1.60	1.75	20 and 25 cts.
" " 116	or true taper or swell end sledge handles, 28 and 30	1.40	1.50	1.65	20 " 25 "
" " 117	or pean hammer handles, 16, 18, 20, 22, 24, 26, 28 inches, \$.75, \$1.00, \$1.15, \$1.30, \$1.40, \$1.50, \$1.65, per dozen,				15 " 20 "
Second quality list, 20 per cent less.					

Blast Drills for Hand or Steam, Bellows, Anvils, Cones,
Swedges, Water & Steam Pipe, Belting etc.

Discount on figs. _____

Fig. 117½.



ICE AXE AND HATCHET HANDLES.

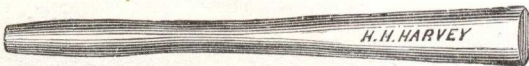
	13 in.	14 in.	16 in.	18 in.	20 in.	22 in.	24 in.	26 in.	28 in.
Best quality hatchet handles, per doz.,	\$0.50	\$0.55	\$0.70	\$0.90	\$1.10	...	...	...	...
Single handle, 10 to 20 cts.									
Best quality ice axe handles, per doz.,	1.00	1.20	1.50	1.70	1.90	2.10	2.30	2.40	2.50
Single handle, 20 to 30 cts.									

Fig. 118.



GRANITE CUTTERS' HAND HAMMER HANDLE.

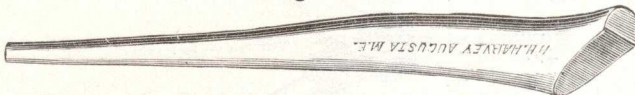
Fig. 119.



GRANITE CUTTERS' HAND HAMMER HANDLE.

This handle has a swell at the large end.

Fig. 120.



GRANITE CUTTERS' CROOKED HAND HAMMER HANDLE.

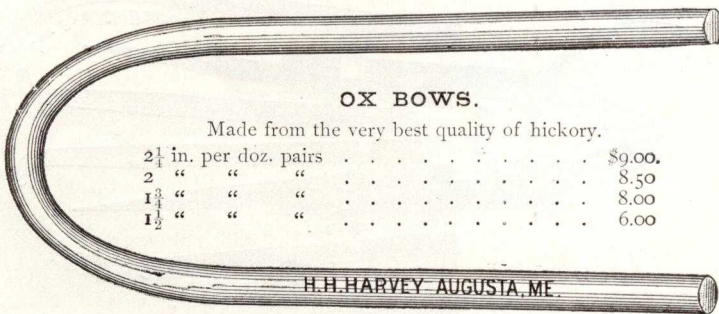
All are made from selected white oak or hickory butts. State in the order which kind is desired.

STONECUTTERS' POLISHED HICKORY OR OAK HAND DRILLING HAMMER HANDLES.

Made from toughest selected butts.

	In Barrel Lots.	Gross Lots.	Half Gross Lots.	Single Doz.	Single Handle.
Fig. 118 and 119	\$0.90 per doz.	\$1.00 per doz.	\$1.10 per doz.	\$1.25	15 to 20 cts.
Fig. 120	1.00 "	1.10 "	1.20 "	1.40	20 " 25 "
Selected Fig. 120, extra hand finished, per doz.,	\$2.00.	25 cts. each for less than 1 dozen.			

Fig. 120½.



OX BOWS.

Made from the very best quality of hickory.

2½ in. per doz. pairs	\$9.00.
2 " " "	8.50
1½ " " "	8.00
1 " " "	6.00

OX GOADS.

4½ feet long, with ferrule and spur, per doz.	\$1.80
Whip stocks, with loop	1.80

No charge for boxing. Orders filled promptly.

Any special size handles will be made at short notice, and at a low price.

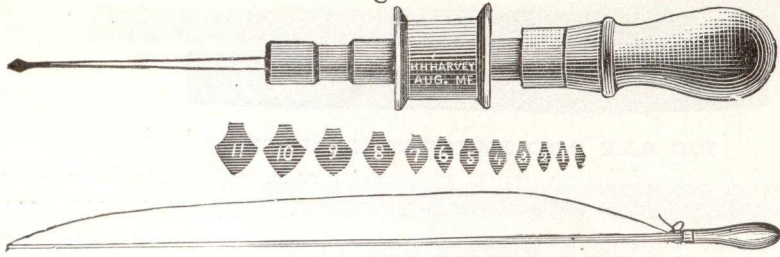
We carry a large stock. Orders filled promptly.

Steel, Norway and Refined Iron,
Wedges All Kinds and Sizes.

Discount on figs.

BUSH HAMMERS and HAND HAMMERS.
ALL - KINDS - OF - PAVING - HAMMERS.

Fig. 121.

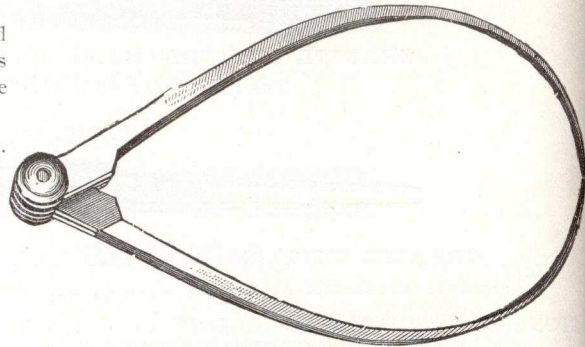


BOW DRILL (Complete.)

Bow, drill, stock, and string, with brass or iron spool and 12 drills \$9.00
 Extra drills made to order, polished \$2.50 per dozen.
 Extra string, steel or brass wire, wound on gut, 50 cts. each. Steel bows, \$1.50 each.

The above stock has a cast steel spindle, brass spool and ferrule, and a walnut handle, with a solid box or lining the entire length, adjustable takeup at the end, and is the best drill stock in the market, without any exception.

Fig. 122.



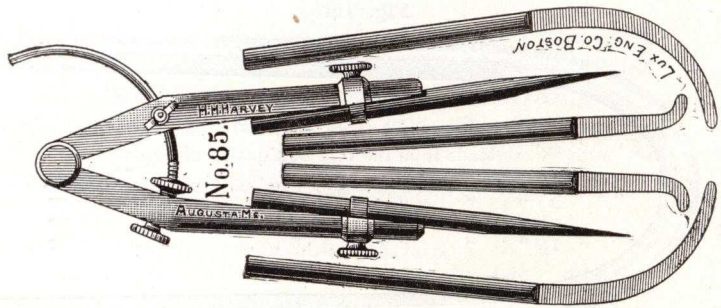
GRANITE CARVERS' CALIPERS.

These Calipers are double-jointed Norway Iron, brass-lined, and brass heads. The lengths given are with the legs straight:

Size 1, legs	12 in.	long	\$3.00	per pair.
" 2, "	18 "	"	3.50	"
" 3, "	24 "	"	4.00	"
" 4, "	30 "	"	5.00	"
" 5, "	36 "	"	6.00	"

Other sizes made to order.
 Shipped bent or straight as desired.

Fig. 122½.



COMBINATION CALIPERS.

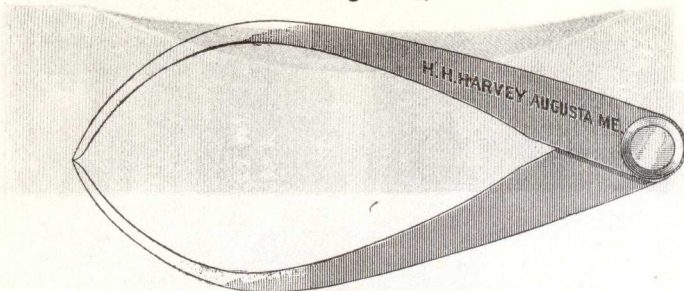
Head and short points, 8 inches. Points may be extended 2 inches more, and will then scribe a 24 inch circle \$2.00
 Extra long points, either style. Same will scribe a 34 inch circle 50 cts per pair
 Double extra long points, either style. Will scribe a 44 inch circle 75 cts " extra.

DERRICKS, WINCHES, WIRE ROPE
 BLOCKS, MANILLA ROPE, IRON & STEEL.

Polishing Supplies and Machines.

HAMMERS OF ALL KINDS.

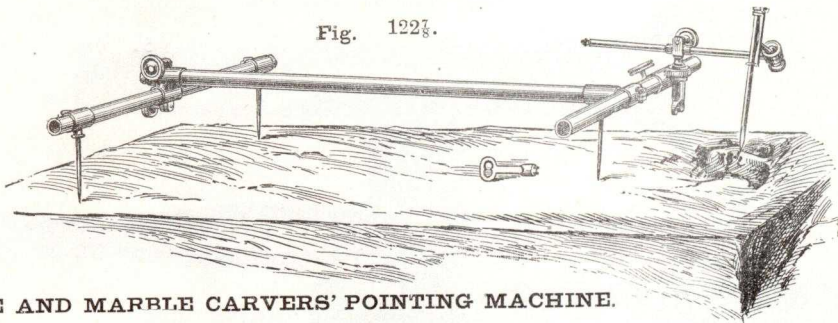
Fig. 122¾.



LIGHT SINGLE JOINT CARVERS' CALIPERS.

Length, 2	3	4	5	6	8	10	12	inch.
25 cts.	30 cts.	35 cts.	40 cts.	50 cts.	60 cts.	75 cts.	\$1.00	each.

Fig. 122½.



GRANITE AND MARBLE CARVERS' POINTING MACHINE.

The above machines are made from double thick brass pipe, *nickel-plated*. All its joints are adjustable. The points are best cast steel. It has a knuckle joint at the finger bar. The needle may be placed on any section of the machine, being interchangeable.

The machine was gotten up by a practical sculptor and thorough mechanic, and it is the best machine for the purpose we ever saw, and no sculptor can afford to be without one.

The middle section, as we generally sell them, is 2 ft. 4 in. long. The cross sections are 1 ft. 8 in. long.

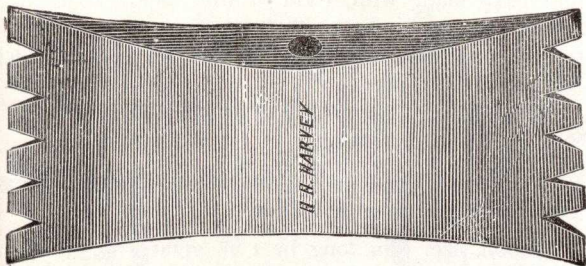
Price of machine, as above, put up in a strong pasteboard box . . . \$25.00

Same, put up in a walnut box, lined and lock . . . 28.50

Double thick extra pipe nickel-plated . . . 60 cts. per ft. extra.

When ordering, please state the length of middle section you desire.

Fig. 123.



From 8 lbs. upwards, 25 cts. per lb.

" 7 to 8 lbs. . . 28 "

" 6 to 7 lbs. . . 30 "

" 4 to 6 lbs. . . 34 "

SAND, LIME OR BROWN STONE TOOTH AXE.

Made from best quality of stone axe steel.

Full - Outfits - A - Specialty.

We Manufacture Everything in the Granite, Marble and Soft Stone Line.

Discount on figs _____

MARBLE, GRANITE & SOFT STONE HAMMERS

AND TOOLS OF ALL DESCRIPTION.

Fig. 123½.

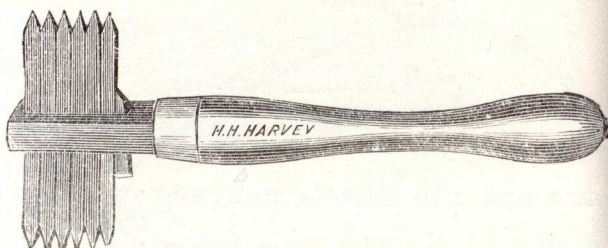


SOFT STONE AXE.

6 lbs. up, 18 cts. per lb.

4 to 5½ lbs., 20 cts. per lb.

Fig. 124.



WOODEN HANDLE CRANDALL HAMMER.

With iron ferrule at each end. Weight, complete, about 7½ lbs.

Price \$ 2.25 each.

Fig. 124½.



POLISHED IRON HANDLE CRANDALL HAMMER.

Weight, complete, 8½ to 9½ lbs.

Figs. 124 and 124½ made with wood or iron handle as desired. It is flattened somewhat, and is better than wood.

Price, ready for use, with one set of picks, 6, 8, 10, or 12, \$ 2.25 each.

Extra filling, per set, 6 to 12 picks 75 cts.

The picks are of the best quality of granite tool steel.

Fig. 125.



a Style of BUSH HAMMER.

Made from solid granite tool steel, and are used on sand, lime, and other soft stone.

Common size, 8 in. long by 2 in. square, weight about 8 lbs., and has the number of teeth in each row as desired, 6, 8, or 10; ready for use . . \$ 3.50 each.

Other sizes made to order.

LIBERAL DISCOUNTS FOR LARGE OUTFITS.

Special . Granite . Tool . Steel,



Fig. 126. STONE PICK.

Made from best granite tool steel entire, or iron and steel pointed, with good sized eye. Corners taken off, and is not square as it shows in the cut. Soft stone picks, made to any

pattern, furnished at the following prices: —

From 6 lbs. upwards,	all steel,	16	cts. per lb. ;	steel pointed,	16	cts. per lb.
" 5 to 5½ lbs.	"	18	"	"	18	"
" 4 to 4½ "	"	20	"	"	20	"

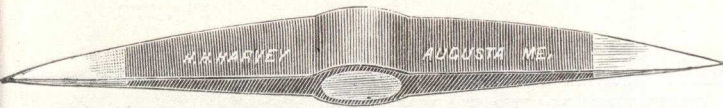
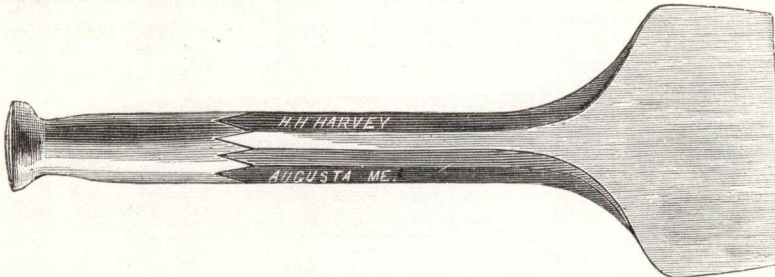


Fig. 126¼. SOFT or BROWN STONE PICK.

Made of best Norway iron, steel pointed. Common sizes 16 c per lb.

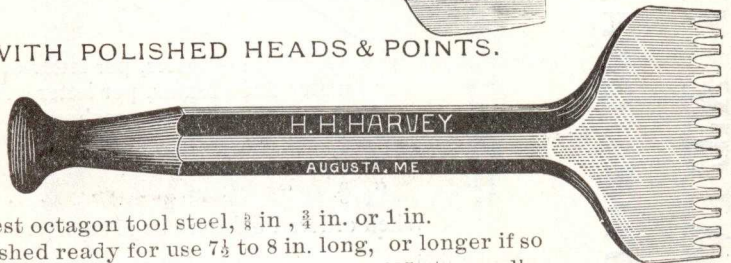
THE ABOVE SOFT STONE PICK MADE OF ALL STEEL IF SO DESIRED.

Fig. 126½.



BROWN STONE TOOLS WITH POLISHED HEADS & POINTS.

Fig. 126¾.



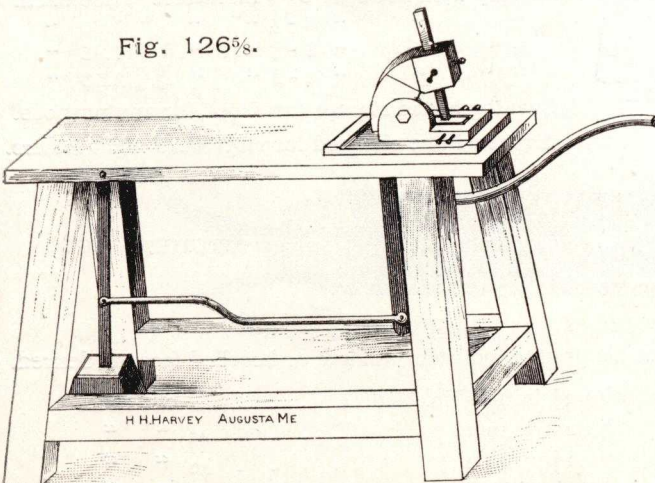
Figs. 126½ & 126¾ made from best octagon tool steel, ¾ in., 1 in. or 1 in.
Steel Chisels, Doves or Points furnished ready for use 7½ to 8 in. long, or longer if so
ordered 25 cts. per lb.
State size, length and width and figure. 5 cts. per lb. extra will be charged for every ½ in. wider
when over 3 inches wide.

The above, headed, blade not drawn 15 cts. per lb.
" " " drawn to size given, if common 18 "

See Fig. 132 for Marble Tools.

HAMMER HEAD POINTS ¾ in. and above - - - 12½c per lb.

Fig. 126⁵⁄₈.



BROWN STONE TOOL TOOTH CUTTING TOOL.

It has either Hand or foot power as desired.
The machine is fitted up in the very best manner, all inside bearings being planed.
The pin is steel. Mounted on hardwood frame, and furnished with guides, one set of dies and punch; complete ready for work \$35.00 each.

Special Granite Tool Steel etc., etc. Special Low Prices on Complete Outfits.

Discount on figs.

Fig. 127.



STONECUTTERS
MALLET.

Made from selected Hickory stock, tough and hard.

From 2 to $2\frac{1}{2}$ lbs., with handles, \$.65 each.
 " 3 " $3\frac{1}{2}$ " " 1.00 "

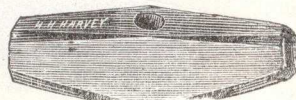
From 4 to 4½ lbs., with handles, \$1.25 each.
 " 5 " 8 " " 1.50 "

Fig. 128.

Fig. 129.



CALIFORNIA STYLE OF STONE- CUTTERS' HAND HAMMERS.



Are made from American crucible cast steel.
From 3½ to 6 lbs. 32 cts. per lb. - -

Have large oval eyes and polished faces.

From $2\frac{1}{2}$ to $3\frac{3}{8}$ lbs. 36 cts. per lb.

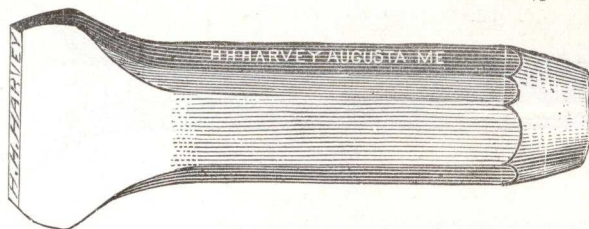


Fig. 130.

STEEL STAMP.

Steel Stamps, with	over three $\frac{1}{8}$ letters, per letter or figure	25	cts.
"	" under three letters, per letter	35	"
"	" $\frac{3}{16}$ letters or figures, each	35	"
"	" $\frac{1}{4}$ " "	40	"
"	" $\frac{5}{16}$ " "	45	"
"	" $\frac{3}{8}$ " "	50	"

When ordered on extra large stock, 10 or 15 cts. per stamp extra.

$\frac{1}{16}$ in. figures	. . . .	\$2.00 per set.
“	. . . .	2.25 “
“	. . . .	2.50 “

$\frac{1}{4}$ in. figures	.	.	.	\$3.00 per set.
$\frac{5}{16}$ "	.	.	.	3.50 "
$\frac{3}{8}$ "	.	.	.	4.00 "

Fig. 130 without letters $\frac{3}{4}$ in. steel and above 25 cts. per lb. Single tools or less than three 25c each.

3/8	30	20c
1/2	40	18c

FIG. 130 $\frac{1}{2}$.

Fig. 130½ For burning in wood, marking handles etc.
Extra deep letters also long handle.



Stamp with not over 8 - $\frac{3}{8}$ in. letters \$1.50 each.

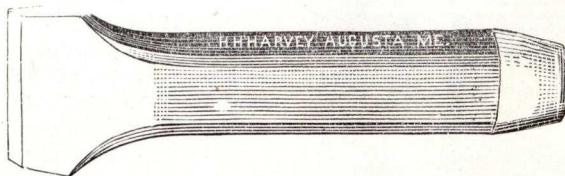
“ “ “ 8 - $\frac{1}{2}$ “ “ 1.60 “

“ “ “ 8 - $\frac{5}{8}$ “ “ 1.85 “

“	“	“	8 - $\frac{3}{4}$	“	“	2.50	“
---	---	---	-------------------	---	---	------	---

Burning brand stamps furnished for any purpose.

Extra will be charged for more than eight letters.



131.

PITCHING TOOL.

Made from any size best crucible granite tool steel, straight or bevelled face, as desired.

Made from $1\frac{1}{4}$ in. steel, with $2\frac{1}{2}$ in. to 3 in. blade 50 cts. each.

“	1 $\frac{1}{8}$	“	“	“	2	“	to	2 $\frac{1}{2}$	“	“	45	“	“
---	-----------------	---	---	---	---	---	----	-----------------	---	---	---	---	---	---	----	---	---

“ I “ “ “ $I\frac{1}{2}$ “ to 2 “ “ 40 “ “

“ $\frac{7}{8}$ “ or 1 in. steel, with $1\frac{1}{4}$ in. blade . 35 “ “

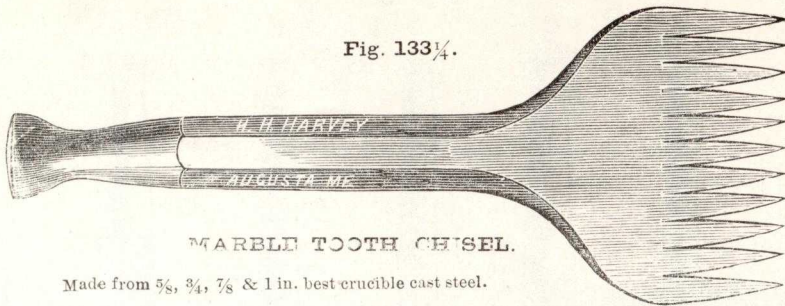
“ $\frac{5}{8}$ “ or $\frac{3}{4}$ “ “ I “ to $1\frac{1}{4}$ “ “ . 35 “ “

“ $\frac{3}{8}$ “ or $\frac{1}{2}$ “ “ “ $\frac{3}{4}$ “ to 1 “ “ “ 30 “ “

Hammer Head Tools at Special Low Prices, Chalk,

GRIT ALL KINDS, EMERY RUBS, BROKEN EMERY STONE, Felting, Chilled Iron Shot, Crocus.

Fig. 133¼.



MARBLE TOOTH CHISEL.

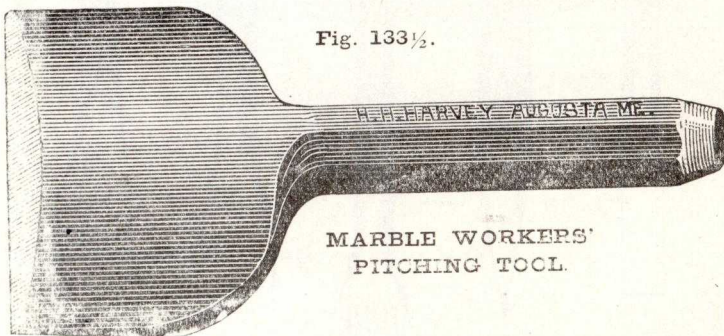
Made from 5/8, 3/4, 7/8 & 1 in. best crucible cast steel.

	Width of blades in inches	2½	3	3½	4	4½	5	inches.
Tooth Chisels made from 5/8 in. steel, price each		.32	.37	.42	.50			cts.
" " 3/4 " "		.40	.42	.50	.57	.67		"
" " 7/8 " "		.45	.50	.58	.67	.75	.85	"
" " 1 " "		.50	.55	.63	.75	.85	.95	"

Tooth chisels made from any size steel and length ordered, if not over 9 inches. An extra charge will be made for those ordered over 9 inches long. State the size of steel and width of blade you desire the tool made. Common length is from 7½ in. to 9 in.

For Soft or Brown Stone Tools, see Fig. 126½.

Fig. 133½.

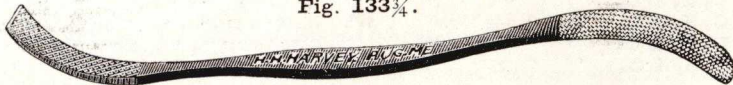


MARBLE WORKERS' PITCHING TOOL.

Made from quarter octagon best granite tool solid steel, 5 to 6 in. long; blade 1 in. to 3 in. wide. In ordering give size, etc.

Diameter of steel, 1/4 in.	1 in.	to 1½ in.	blade	25 cts. each.
" " 5/8 in.	1 " "	to 1½ "	"	30 " "
" " 3/4 in.	1½ " "	to 2 "	"	50 " "
" " 7/8 in.	1½ " "	to 2½ "	"	65 " "
" " 1 in.	2 " "	to 3 "	"	75 " "

Fig. 133¾.



MARBLE CUTTERS' CURVED FILE. Square, Oval, Round, or Flat.

Large size, about 9 in. long 60 cts. each.
Small " " 7 " 50 " "

Also other styles of files and rasps at market prices, flat, square, etc.

FROSTERS OR FRETTING TOOLS.

1 in.	3/4 in.	5/8 in.	1/2 in.	3/8 in.	1/4 in.	square on faces.
\$1.00	85 cts.	70 cts.	55 cts.	45 cts.	35 cts.	each.

Other sizes made to order.

GRANITE TOOLS AND JACKS A SPECIALTY.
Derricks Winches. Tripods, Blocks, etc, Wire and Manilla Rope.

Fig. 1337.

Screw Marble Drill, can be fastened into the work itself.

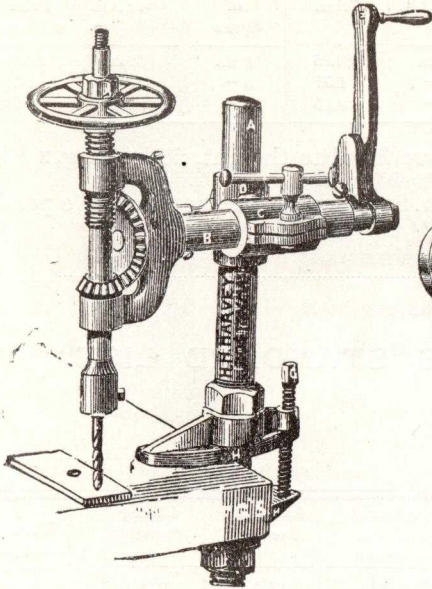
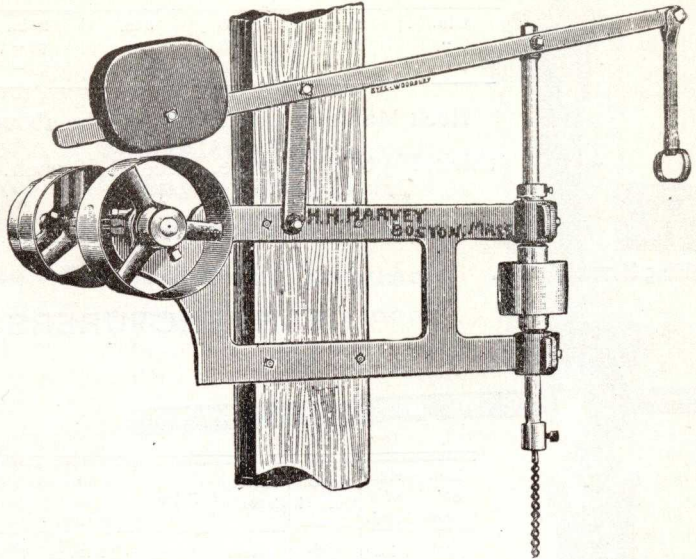


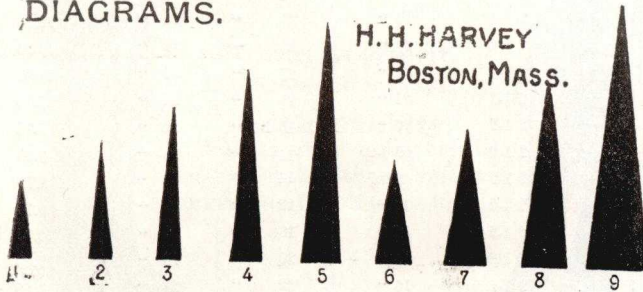
Fig. 13315.

Quick acting Lever Marble Drill.



	Weight.	Capacity.	Size of Pulley.	Price.
Fig. 1393	lbs.			
" 1395	"			

Wedge Lead for Setting Monuments etc. DIAGRAMS.



The above are full sized diagrams.

PRICES

100 Lb. Lots.	-	-	-	-	7c. PER LB.
50 " "	-	-	-	-	7½c. " "
25 " "	-	-	-	-	7½c. " "
10 " "	-	-	-	-	7¾c. " "

We charge 60c, extra for wooden reel for 100 lbs.

" 50c,	"	"	"	50 "
" 25c,	"	"	"	25 "

HEADQUARTERS FOR

Wedge Lead, Granite and Marble Tools a Specialty. Also Polishing Supplies of every description, Pat. Counterpoised polishing machines, Tilghman's Chilled Iron Shot, The Celebrated Chester Emery, Emery Bricks, Polishing Putty, Felting, Jacketing, Crocus, Acid Calcined Plaster, Steel and Tampico Brushes, Also Derricks and Winches, Wire and Manilla Rope, Jacks of all kinds, Shovels, Picks, Crow, Line and Tamping Bars, Chains, and H. H. Harvey's Special Granite Tool Steel and Tools.

Discount on figs.

Fig. 134.

CAST IRON JACK SCREWS.

These screws are cast with seamless threads, which makes them very smooth and uniform.



Building Movers' Screws.

Diameter of Screw.	Height Over All.	Price.	Diameter of Screw.	Height Over All.	Price.	Diameter of Screw.	Height Over All.	Price with cap.
3 in.	20 in.	\$3.50	3 in.	26 in.	\$4.25	3 in.	32 in.	\$5.00
3 "	22 "	3.75	3 "	28 "	4.50	3 "	34 "	5.25
3 "	24 "	4.00	3 "	30 "	4.75	3 "	36 "	5.50

Rock Maple or Oak Plank for the above fitted to the nut, 28 in. long, x 4 in. thick, 10½ to 12 in. wide. Price \$1.50 each. Steel levers for the above 10c per lb.

Discount on fig. _____

MANUFACTURERS STANDARD LIST.

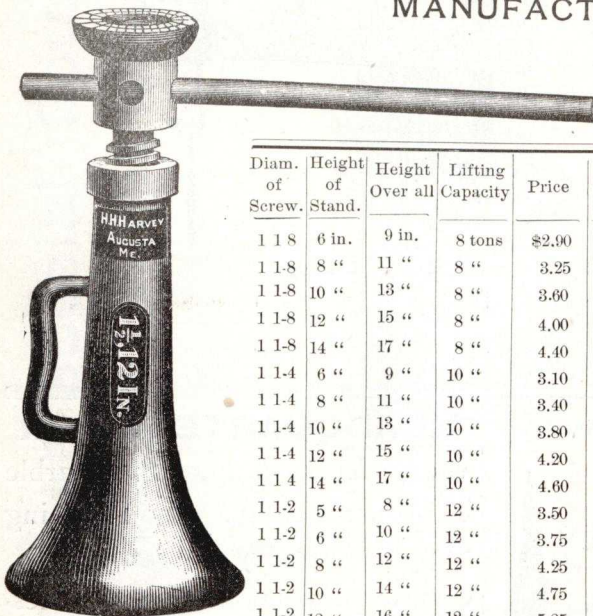


Fig. 135.
JACK SCREW.

Diam. of Screw.	Height of Stand.	Height Over all	Lifting Capacity	Price	Diam. of Screw.	Height of Stand	Height Over All.	Lifting Capacity	Price each.
1 1/8	6 in.	9 in.	8 tons	\$2.00	2 in.	18 in.	22 1-2 in.	20 tons	\$10.25
1 1/8	8 "	11 "	8 "	3.25	2 "	20 "	24 1-2 "	20 "	11.50
1 1/8	10 "	13 "	8 "	3.60	2 "	22 "	26 1-2 "	20 "	12.50
1 1/8	12 "	15 "	8 "	4.00	2 "	24 "	28 1-2 "	20 "	13.50
1 1/8	14 "	17 "	8 "	4.40	2 "	8 "	13 "	24 "	7.50
1 1/4	6 "	9 "	10 "	3.10	2 1/4	10 "	15 "	24 "	8.25
1 1/4	8 "	11 "	10 "	3.40	2 1/4	12 "	17 "	24 "	9.00
1 1/4	10 "	13 "	10 "	3.80	2 1/4	14 "	19 "	24 "	10.00
1 1/4	12 "	15 "	10 "	4.20	2 1/4	16 "	21 "	24 "	11.00
1 1/4	14 "	17 "	10 "	4.60	2 1/4	18 "	23 "	24 "	12.00
1 1/2	5 "	8 "	12 "	3.50	2 1/4	20 "	25 "	24 "	13.25
1 1/2	6 "	10 "	12 "	3.75	2 1/4	22 "	27 "	24 "	14.50
1 1/2	8 "	12 "	12 "	4.25	2 1/4	24 "	29 "	24 "	15.75
1 1/2	10 "	14 "	12 "	4.75	2 1/2	6 "	10 1-2 "	28 "	7.75
1 1/2	12 "	16 "	12 "	5.25	2 1/2	6 1-2	11 "	28 "	8.00
1 1/2	14 "	18 "	12 "	6.00	2 1/2	8 in.	14 "	28 "	8.75
1 1/2	16 "	20 "	12 "	6.75	2 1/2	10 "	16 "	28 "	9.75
1 3/4	6 "	10 "	16 "	4.50	2 1/2	12 "	18 "	28 "	10.75
1 3/4	8 "	12 "	16 "	5.00	2 1/2	14 "	20 "	28 "	12.00
1 3/4	10 "	14 "	16 "	5.75	2 1/2	16 "	22 "	28 "	13.25
1 3/4	12 "	16 "	16 "	6.25	2 1/2	18 "	24 "	28 "	14.50
1 3/4	14 "	18 "	16 "	6.75	2 1/2	20 "	26 "	28 "	15.75
1 3/4	16 "	20 "	16 "	7.50	2 1/2	22 "	28 "	28 "	17.00
1 3/4	18 "	22 "	16 "	8.50	2 1/2	24 "	30 "	28 "	18.25
2	5 "	9 1-2	20 "	5.00	2 1/2	28 "	34 "	28 "	22.00
2	6 "	10 1-2	20 "	5.25	2 1/2	32 "	38 "	28 "	26.00
2	8 "	12 1-2	20 "	6.00	2 1/2	14 "	20 "	36 "	19.50
2	10 "	14 1-2	20 "	6.75	3	16 "	22 "	36 "	20.75
2	12 "	16 1-2	20 "	7.50	3	18 "	24 "	36 "	22.00
2	14 "	18 1-2	20 "	8.25	3	20 "	26 "	36 "	23.25
2	16 "	20 1-2	20 "	9.25	3	22 "	28 "	36 "	24.50
					3	24 "	30 "	36 "	25.75

THIS PRICE DOES NOT

INCLUDE THE LEVERS.

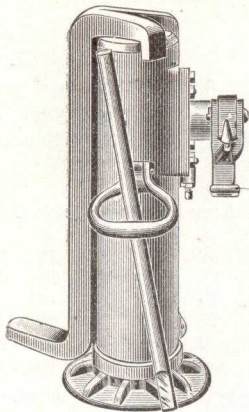
Price of Levers 10c per lb. extra.

Wrought Iron Machine Turned Screw. Discounts according to quantities ordered. Discount on fig. _____

Norton's Improved Ratchet Screw Jacks.

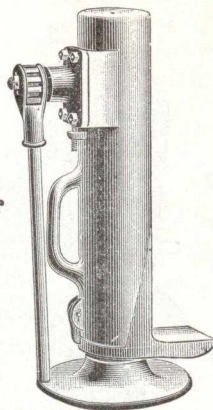
Ball-Bearing Jack, Style N. A., 25 tons.

With hook for Ground Lift.

FIG. 135 $\frac{1}{2}$.

Double-Speed Ball-Bearing Jack.

STYLE F 15 TONS.

FIG. 135 $\frac{1}{4}$.

**We Make a Specialty of Equipping
Locomotives with Any Special Height or
Capacity Required at Short Notice.**

**Estimates Furnished and Contracts
Taken for Equipping Entire Lines.**

Style N. A. Ball-Bearing Jack, 25 tons.

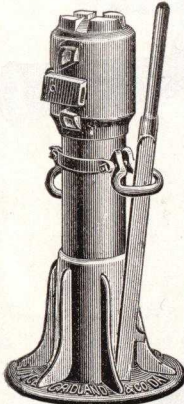
Style F. Ball-Bearing Jack.

Style	Height	Rise	Diam. of base	Weight	Capacity	List Price	Extra for Hook
N. A.	26 in.	14 in.	10 in.	105 lbs.	25 tons	\$90.00	\$6.00

Style	Height	Rise	Diam. of base	Weight	Capacity	List Price
F	24 in.	10 in.	10 in.	115 lbs.	15 tons	\$60.00

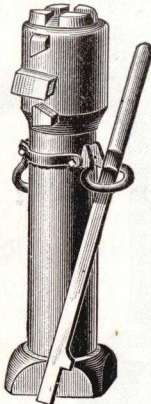
The construction of the Norton Jack is such that it may be carried on Locomotives for months at a time, exposed to the coal-dirt and action of the weather, and be found ready for service when needed.

This Jack has large gear on ratchet shaft, giving it double speed. It is malleable iron and steel throughout, extra strong, and is especially adapted to Electric plants, power houses on Electric Railways, and for handling stones, heavy machinery, etc.

Hydraulic Jacks, Workmanship the Very Best.FIG. 135 $\frac{3}{8}$.

Points of Merit.
Lightness and Strength.

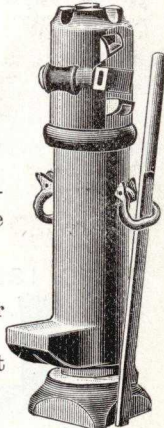
Accessibility
Valves and packing can be attended to without removing head of Jack from Ram.

FIG. 135 $\frac{1}{2}$.

Materials
Malleable Iron, Steel and
Phosphor Bronze.

In Tripping
Both valves are opened positively by the same pressure on the lever.

Position
Will run out full lift in either a vertical, horizontal or inclined position, without special construction.

FIG. 135 $\frac{5}{8}$.Broad Base Jacks. Fig. 135 $\frac{3}{8}$.Small Base Jacks. Fig. 135 $\frac{1}{2}$.Ground-Lift Jacks. Fig. 135 $\frac{5}{8}$.

Capacity in Tons.	Rise in Inches.	Height when down in inches.	Price.	Capacity in Tons.	Rise in Inches.	Height when down in inches.	Price.	Capacity in Tons.	Rise in Inches.	Height when down in inches.	Price.
10	12	25	\$ 71.00	10	12	25	\$ 57.00	10	12	25	\$ 78.00
10	18	31	82.00	10	18	31	64.00	10	18	31	87.00
10	22	35	90.00	10	24	37	72.00	15	12	25 $\frac{1}{2}$	115.00
10	24	37	98.00	15	12	25 $\frac{1}{2}$	70.00	15	18	31 $\frac{1}{2}$	130.00
15	12	25 $\frac{1}{2}$	94.00	15	18	31 $\frac{1}{2}$	82.00	20	12	25 $\frac{1}{2}$	155.00
15	18	31 $\frac{1}{2}$	112.00	20	12	25 $\frac{1}{2}$	85.00				
15	22	35 $\frac{1}{2}$	127.00	20	18	31 $\frac{1}{2}$	100.00				
20	12	25 $\frac{1}{2}$	112.00	30	9	22 $\frac{3}{4}$	108.00				
20	18	31 $\frac{1}{2}$	131.00	30	12	25 $\frac{3}{4}$	125.00				
30	9	22 $\frac{3}{4}$	128.00								
30	12	25 $\frac{3}{4}$	150.00								
30	18	31 $\frac{3}{4}$	188.00								

WE MAKE JACKS FOR ANY PURPOSE.

Discount on figs.

Fig. 37.

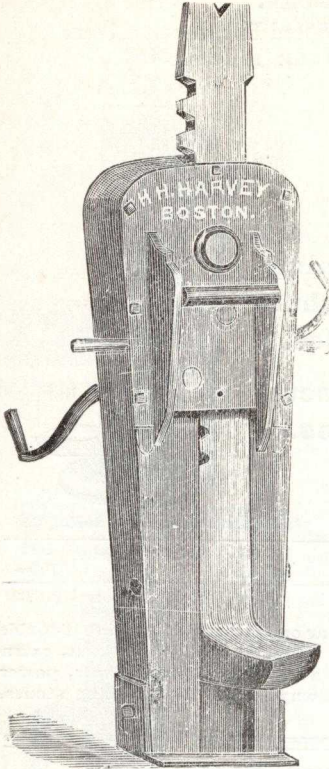


Fig. 137.

Heavy Geared Stone Jack with all Iron or Soft Steel Heavy Frame, Wood Filled.

Double Geared Stone Jack, to handle 15 tons		Price	\$125.00
Extra Single	" " 10 to 12 tons	"	85 00
Single	" " 5 to 7 "	"	75.00
Light	" " 4 to 5 "	"	65.00

The rack is wrought cast steel, all inside works are wrought cast steel. Boxes are gun metal. All material and work first-class in every way.

THE BEST THAT CAN BE MADE.

furnished at short notice.

All parts can be

Lever Stone Jack.

Fig. 138.

Size of Lever Jacks.

	1	2	4	5	6	7
Height of Jack with bar down, in inches	16	19	23	28½	28	37½
Rise of bar, inches	9	11	14	15	15	25
Size of bar	1½	1½	1½	1½	2	2
Weight of Jack, pounds	25	25	42	75	95	118
Capacity [will handle] tons,	2	2	4	8	15	15

Price of Lever Stone Jacks at Boston store \$10 \$10 \$16 \$23 \$26 \$30

The Boxes are tempered steel and the pins are machinery steel. All the wearing parts are hardened steel. The frame and pauls are made from malleable iron, case hardened. The teeth in steel rack are regular cut gear. All parts can be furnished at short notice. We have also the Lever Jacks with flat top for cars.

LEVER STONE JACK.

FLAT TOP LEVER JACK.

Fig. 138.

Fig. 137½.

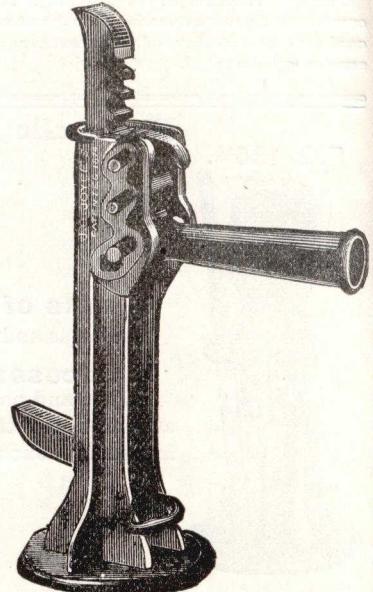
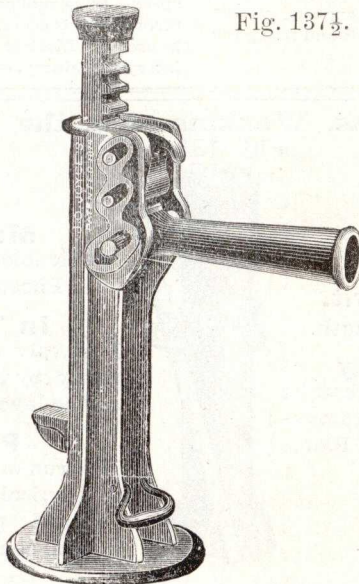


FIG. 138½.

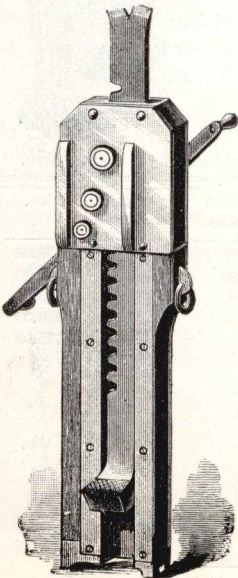


FIG. 138½. OUR LIGHT AND CHEAP GEARED STONE JACK.

These Jacks have a heavy wrought steel rack and step, the gears and plate are steel castings with partial thin iron frame nicely finished, or full thin iron frame well finished. By the amount a jack will handle means what it will cant over.

ALL THE PARTS CAN BE FURNISHED AT SHORT NOTICE.

We have a full stock of the above Jacks which can be supplied in connection with our Hammers and Tools; Steel, Chilled Iron Shot. Emery, Felting, Etc., Etc.

Price and sizes of Fig. 138½.

Size	Gear.	Lifts.	Height.	Will handle	Weight.	Partial bound with iron. Price.	Full bound with iron. Price.
1	Double	1 ft. 8 in.	2 ft. 6 in.	3 tons	80 lbs.	\$23.50	\$28.50
2	Double	1 ft. 9 "	2 ft. 9 in.	6 "	115 "	33.50	40.00
3	Triple	1 ft. 10 "	3 ft. 2 in.	10 "	175 "	60.00	70.00
4	Triple	Made to order		12 "		80.00	90.00
5	Triple	" "		15 "		100.00	115.00

Discount on figs.

PATENT COUNTERPOISED POLISHING MACHINE.

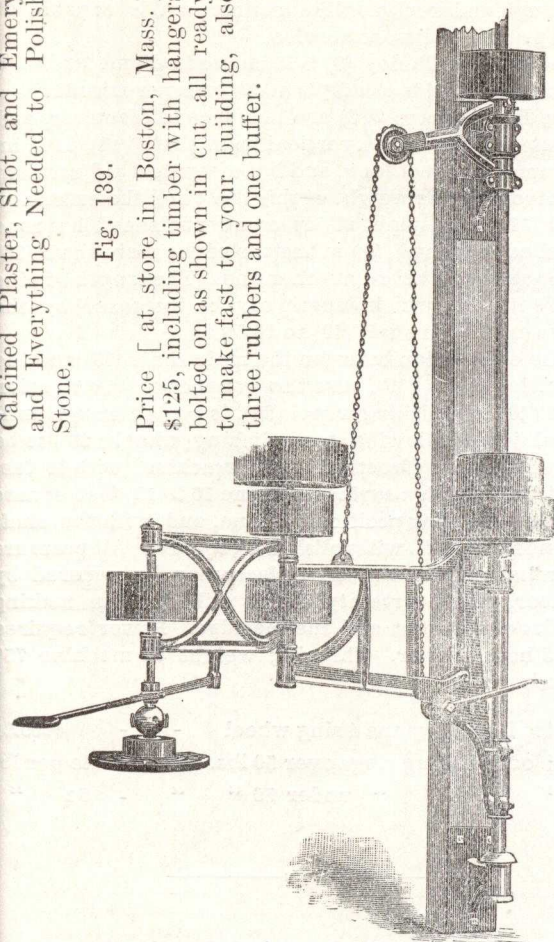
Fig. 139.

H. H. Harvey Boston Mass., Sole Agent.

Calmed Plaster, Shot and Emery
and Everything Needed to Polish
Stone.

Fig. 139.

Price [at store in Boston, Mass.]
\$125, including timber with hangers
bolted on as shown in cut all ready
to make fast to your building, also
three rubbers and one buffer.



Polishing Materials.

Best or white felting, $\frac{1}{4}$ to 1 in. thick, in sheets 36 to 40 in. square	-	-	\$1.10 to \$1.40 per lb.
Second quality or gray, $\frac{1}{4}$ to 1 in. thick, in sheets 36 to 40 in. square	-	-	\$0.90 to \$1.25 per lb.
Second-hand felting, comonly called jacketing			\$0.25 to \$0.50 per lb.

plaster, Crocus, Pumice Stone, Grit, Broken Grind Stones, Files, Chalk, Broken Emery Wheels, Brushes, Steel and Tampico, Rub Stones, Model Clay, Muratic Acid, Putty Powder, Chilled Iron Shot, Chester Emery.

We make a specialty of everything connected with the granite business.

At Wholesale and Retail.

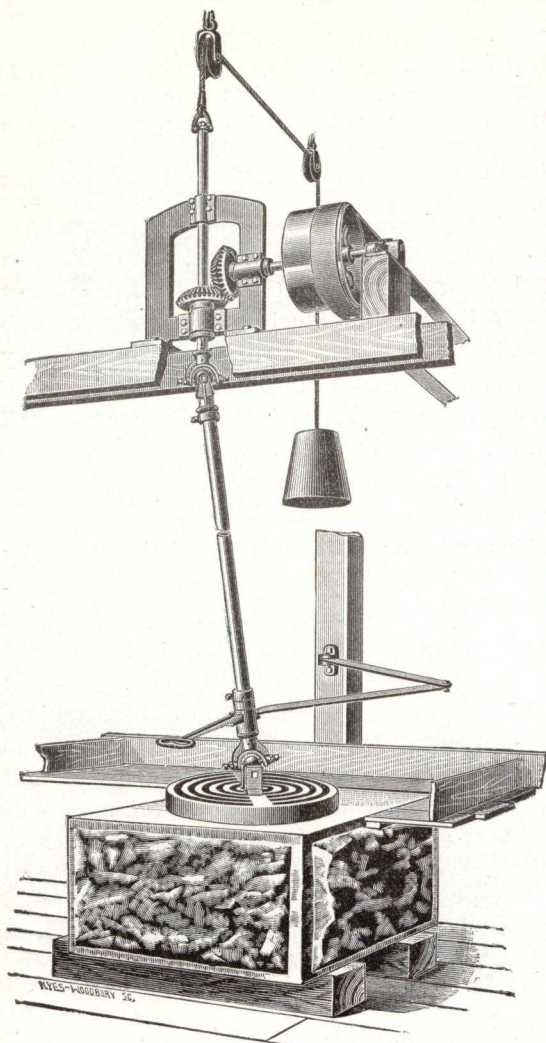
This machine was invented and patented by one of the largest and most practical granite contractors and polishers in this country, and all its makeup is practical in every way, and the pattern maker, also, has so placed the metal as to make all its parts strong and symmetrical, and is therefore one of the best polishing machines in the market. The inventor has several in use, and although no effort has been made to dispose of them, there have many been sold at \$180 each. We noticing the merits of the machine, applied for the sole agency of them, and obtained it; and now, hoping to make quick sales, offer them at the low price of \$125, net cash.

WE CLAIM THE FOLLOWING ADVANTAGES.

- 1st. That it may be easily raised to take a stone of any desired height, as may be readily seen by the cut.
- 2d. Its lightness and the ease with which it can be handled.
- 3d. The low price at which it can be sold, owing to its peculiar and ingenious construction.

The hangers are bolted to the post, and all that is required to set it up, is merely to fasten it up plumb and put on the belts. The pulleys are all 6 inch faces, and capable of driving a rubber disk of any required size. The driving pulley on the upright shaft is 18 in. diameter x 6 in. face, and requires a speed of about 175 revolutions per minute. The swing of the disk covers a stone eleven feet long. We make the vertical shaft 12 feet long, unless otherwise specially ordered. It will be seen by reference to the cut that the height to which the rubbers may be raised, depends on the length of this shaft, therefore in ordering, mention should be made of the height of the room in which it is to run. Any height of stone can be accommodated with the same machine. Full directions how to polish are sent with each machine when desired. Correspondence solicited. All questions about the machines cheerfully answered. We also furnish stationery or portable Boilers and Engines, Shafting, Hangers, Felting, Emery, Tilghman Patent Chilled Iron Shot, Emery Rubs or Bricks, Wedge Lead, and Wire Rope, Jacks, Anvils, Bars, Steam Hoists, Steel and General outfits of all kinds of Granite Workers, and Polishers supplies, etc., etc.

FIG. 139½.



VERTICAL GRANITE AND MARBLE POLISHING MACHINE.

prove that one grade of putty will not suit all granites. Care should be taken to use only a small quantity at a time, for the reason that it does not take as much of this putty to produce the same finish as that of other makes now in the market. We have therefore clasified it into four grades namely X - XX - XXX - XXXX. To prove our faith we will send upon application free, a sufficient quantity for trial.

X is for soft stone or marble. - -

XX is for a harder stone similar to Westerly etc.

XXX is for a very hard stone like Quinsey etc.
gold, silver etc., etc.

XXXX is for other kinds of polishing like glass,

Grade	X - XX - XXX - XXXX	25 to 100 lbs.	200 lbs.	500 lbs.	1000 lbs.
Price	35c per lb.	34c per lb.	33c per lb.	32c per lb.	

WE CARRY A FULL STOCK.

See Next Page For Polishing Materials.

This machine is made of the best materials, in a thorough and workmanlike manner, and is capable of heavy and continuous service.

The Driving Pulley (8) is 18 inches in diameter, with 6-inch face, and is usually run 65 turns per minute.

The Bevel Gears (5, 6) are 10 inches in diameter, and accurately fitted. The vertical main shaft (13) is 1½ in. in diameter, 4 feet long, and has a vertical adjustment of 22 inches. The weight of this shaft and the extension shaft (19), with pipe (20) is counterbalanced by rope attached to swivel (11) at the top of the main shaft (13) with weight attached at other end. The length of pipe (20) is 10 feet, which length can be increased by the inside extension shaft (19) to 16 feet.

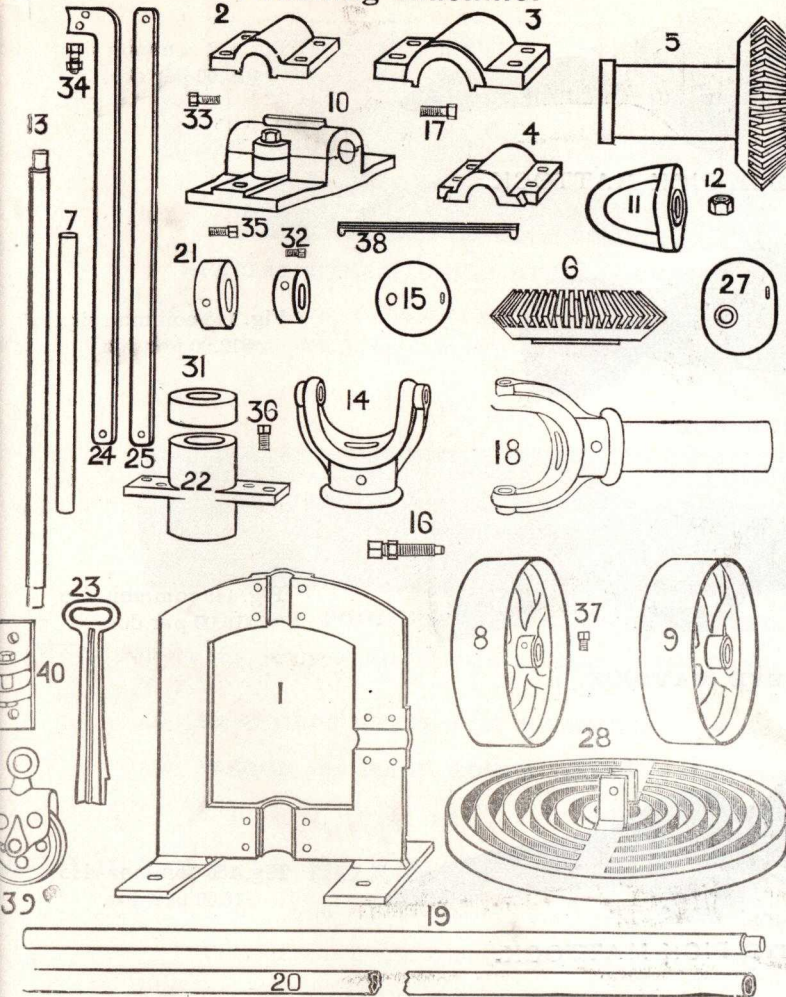
The connection between the main shaft (13) and the extension shaft (19), also the connection of extension shaft (19) to polishing wheel (28), is made through universal joints allowing the polishing wheel (28) to be moved in every direction. This machine, with 10 feet shaft, will polish a surface of stone 10 to 12 feet square without changing position of stone, and with the shaft extended to 16 ft. will polish 15 ft. square. All parts are interchangeable, and any piece may be ordered by number, with a certainty that it will fit, thus making repairs convenient and inexpensive. Power required 1 to 5 horse power. Shipping weight of machine 750 pounds.

Price including one 4 ring wheel	-	-	\$100.00
" of Polishing rings over 50 lbs. each	-	4c per lb.	
" " " under 50 " "	-	5c " "	

H. H. Harvey's Special Putty Powder.

This Powder has only been brought to its present perfection after a very exhaustive course of persistent trial with practical men. We now offer it in four grades all of one uniform price according to quantity. We warrant it equal to any putty made. Our experiments

Parts Showing the Several Parts of the Vertical Polishing Machine.



Net Prices for the Several Parts.	
No.	Price.
1 Frame	\$16.00
2 Top cap	1.00
3 Bottom cap	1.50
4 Side cap	1.00
5 Gear on Main Shaft	5.50
6 Gear on Counter Shaft	3.50
7 Counter Shaft	3.00
8 Tight Pulley	4.50
9 Loose Pulley	4.00
10 Box for Counter Shaft	3.50
11 Swivel	.75
12 Nut Holding Swivel	.15
13 Main Shaft	4.50
14 Fork on Main Shaft	2.00
15 Ball in Top Joint	.75
16 Screw Holding Ball	.25
17 1/2 in. Cap Screw for No. 3	.10
18 Fork on top of Extension Shaft	3.00
19 Extension Shaft	7.00
20 Pipe Outside Extension Shaft	3.00
21 Collars on Pipe	1.75
22 Sleeve	2.50
23 Handle	.75
24 First Lever	1.00
25 Second Lever	.75
26 Ball in Bottom Joint	.75
27 Polishing Wheel (6 ring)	5.00
28 Sleeve Collar	.75
29 Counter Collar and Screw	1.50
30 1/2 Counter cap Screw for Nos. 2 and 3	\$.05
31 Lever Bolt	.20
32 1/2 Set Screw for No. 21	.10
33 1/2 Cap Screw for No. 22	.05
34 1/2 Set Screw for No. 8	.10
35 Key for No. 5	1.00
36 Swivel Pulley [each]	.50
37 Stand for Lever	.40

These fittings are for Fig 139 1/2 the Vertical Polishing Machine, please so state when ordering.

Also Selling Agent for Tilghman's Patent Improved Chilled Iron Shot.

PRICE LIST.

Reduction in Prices April 12, 1893.

On and after date, and until further notice, our patent Chilled Iron Shot will be supplied in 100 lb. bags at the following price per pound.

No. (8-10)	4 1/2c per lb.	No. (30-40)	3 1/2c per lb.
(10-12)	4 1/2c "	(40-50)	3 1/2c "
(12-14)	4 1/2c "	(40-60)	3 1/2c "
(14-22)	4 1/2c "	(50-60)	3 1/2c "
(22-40)	4 1/2c "	(60)	3 1/2c "

When so ordered, bags will be boxed for extra security in transportation, at 20 cts. each extra; in which case we will insure safe delivery of the same. Half and quarter bags will be sent by express at per pound extra.

All transportation at cost and risk of consignee.

TERMS CASH.

Discount on Spot Cash orders of 5 bags	3 per cent.
" " " 10 "	5 "
" " " 20 "	7 "

Discount on figs.

H. H. Harvey, selling Agent for Celebrated Chester Emery.

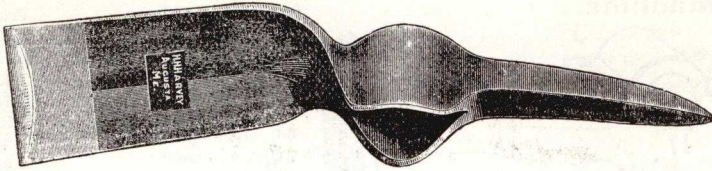
Price List.

As adopted by the Emery Manufacturers' Association.

GRAIN.		Nos. 4 to 46 incl'e.	
In Kegs of about 290 lbs. at 4 1/2c per lb.			
1/2 "	"	135 "	4 1/2c "
3/4 "	"	65 "	5c "
10 lb. Tin Cans 10 in a case		-	6c "
" less than "		-	10c "
FLOUR.		Nos. 54 to 150 incl'e.	
In Kegs of about 290 lbs. 5c per lb.			CF.F & FF.
"	"	135 "	5 1/2c "
"	"	65 "	5 1/2c "
10 lb. Tin cans 10 lbs. in can		6 1/2c "	5 1/2c "
" " "		10c "	8c "

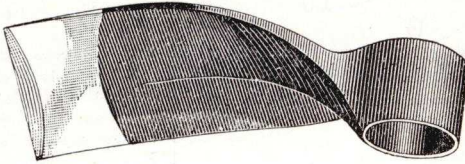
Discounts Adopted by Emery Manufacturers. On orders of 3 ton lots or more 12 1/2% 1 ton and less than 3 tons 10% less than one ton NET. **Terms Net Cash 30 days.**

Fig. 147.

Fig. 147 common size
\$16.00 per doz.

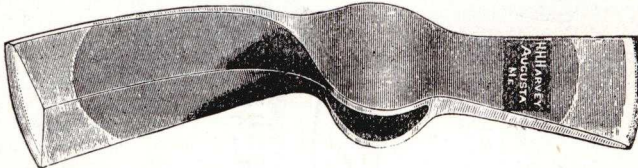
WELDED EYE PICK MATTOCK.

Fig. 148.

Fig. 148 common size
\$12.00 per doz.

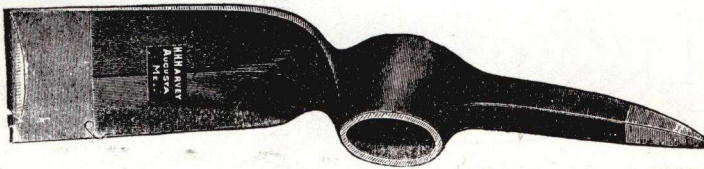
GRUB HOE.

Fig. 149.

Fig. 149 common size
\$16.00 per doz.

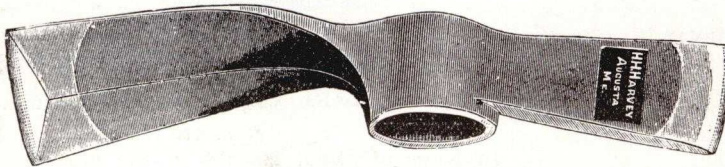
WELDED EYE MATTOCK.

Fig. 150.

Fig. 150 common size
\$16.00 per doz.

SOLID EYE PICK MATTOCK.

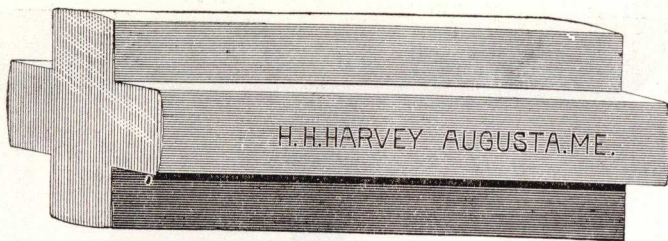
Fig. 151.

Fig. 151 common size
\$16.00 per doz.

SOLID EYE CUTTER MATTOCK.

HANDLES FOR ALL PURPOSES.
R. R. PICKAXES SEE PAGE 25.
WHEEL BARROWS, BARS FOR ALL
PURPOSES, ETC., ETC., ETC.

Fig. 158.

**SPECIAL STEAM DRILL STEEL, CORRUGATED.**

We carry in stock all the sizes commonly used for Steam Drills.

For large lots special Prices given on application. State size and quantity.

Fig. 159.

**SPECIAL POINT DRILL AND CHISEL STEEL.**

We have all the sizes in the square, quarter, and eighth octagon. Also the octagon.

Also **BEST CAST STEEL FOR HAMMERS** in all the sizes.

Also **WEDGE** and **HALF ROUND STEEL** in all the sizes.

$\frac{1}{4}$ in. $\frac{5}{16}$ in. $\frac{3}{8}$ in. $\frac{7}{16}$ in. $\frac{1}{2}$ in. $\frac{9}{16}$ in. $\frac{5}{8}$ in. $\frac{3}{4}$ in. $\frac{7}{8}$ in. 1 in.

IRON FOR BOXING STONE ANY THICKNESS.

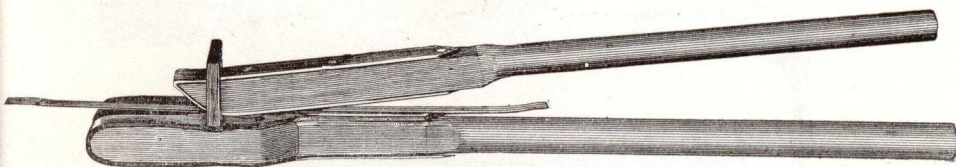
$\frac{1}{2}$ in. $\frac{9}{16}$ in. $\frac{5}{8}$ in. $\frac{11}{16}$ in. $\frac{3}{4}$ in. $\frac{7}{8}$ in. 1 in. etc.

Prices given on application. State size and quantity.

 **STEEL DIE BLOCKS** a specialty.

Also **STEEL FORGINGS** made to order at shortest notice.

Fig. 159½.

**BOX STRAPPER.**

	Long,	Weight,	For size of iron,	
Size 1 . . .	36 in. . .	about 8 lbs. . .	1 in., 1¼ in., 1½ in. . .	\$5.00 each.
Size 2 . . .	30 " . .	" 5 " . .	½ in., ⅝ in., ¾ in., ⅞ in., 1 in. . .	4.00 "

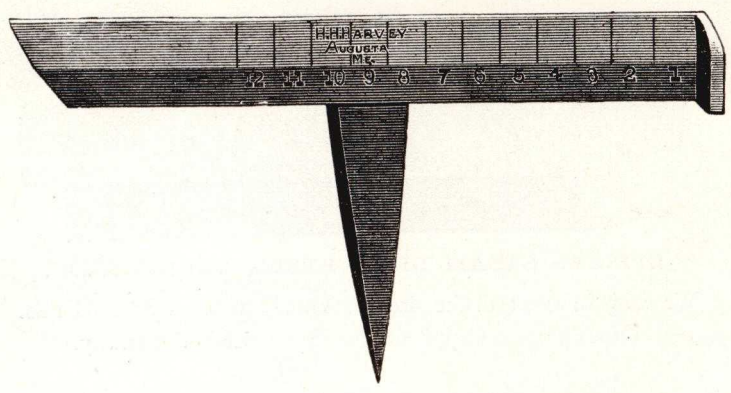
Norway & Refined Iron All Sizes.

BORAX, TONGS, ANVILS, BELLOWS.

Discount on figs. _____

Derricks, Jacks, Chains, Hooks, Bars & General Outfits.
WEDGES AND SHIMS, STEAM DRILLS ALL KINDS.

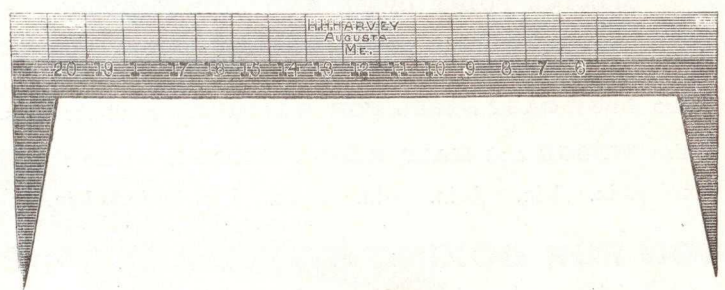
Fig. 160.



SLATE CUTTERS' STAKE. Polished Face.

The above are made of all steel or Norway iron. Steel faced as desired.
 Steel faced and tempered, 16 in. long, graded 12 in. \$2.00 each.
 Same all steel and tempered 2.50 "

Fig. 161.



SLATE CUTTERS' LONG STAKE. Polished Face.

The above are made from all steel; or Norway iron, steel faced, as ordered.
 Steel faced and polished, 20 in. long and graded \$2.50 each.
 All steel and polished, 20 in. long and graded 3.00 "

Fig. 162.



BEST BOX NAIL PULLER IN THE WORLD.

The jaws are made from best crucible tool steel, tempered and polished.
 Small size, or 15 in. when down \$2.50 each.
 Large " " 18 " " 2.75 "

Winches, Iron & Wooden Blocks

DERRICKS, TRIPODS, ETC. ETC.

Discount on figs.

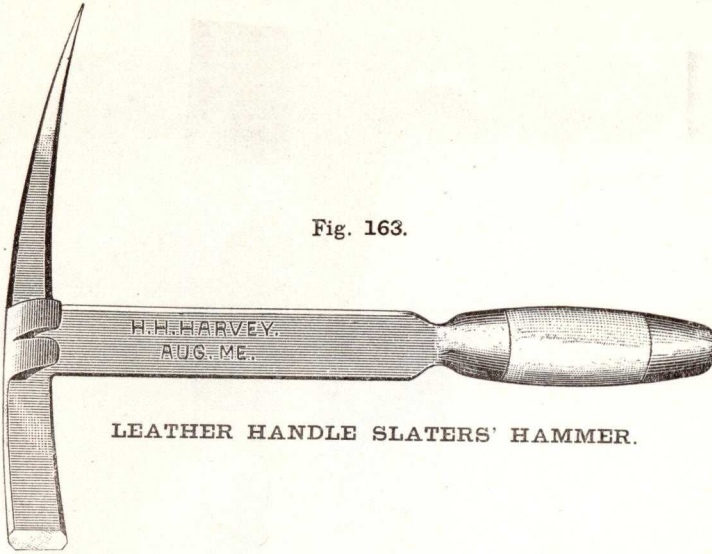
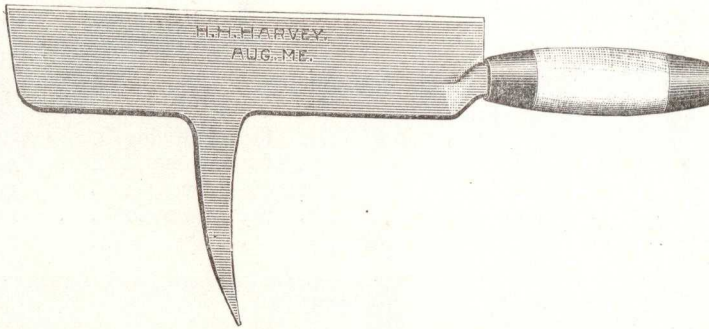


Fig. 163.

LEATHER HANDLE SLATERS' HAMMER.

Made from best Norway iron, steel faced all over, <i>polished</i>	. . .	\$5.00 each.
Made from same stock, with wood filled handle,	" . . .	4.50 "
Made from all steel, with leather filled handle,	" . . .	5.50 "

Fig. 164.



LEATHER HANDLE SLATE CUTTERS' TRIMMER.

Made from best Norway iron, steel faced all over, <i>polished</i>	. . .	\$4.00 each.
Made from same stock, with wood filled handle,	" . . .	3.50 "
Made from all steel, with leather filled handle,	" . . .	4.50 "

Fig. 165.



BEST SHINGLE OR SLATE CLEAVER MADE.

Made from best crucible tool steel, <i>tempered</i> and <i>polished</i>	. . .	3.50 each.
The above tool is used for taking off old slates or shingles.		

- - FOR BARS SEE PAGE 70. - -

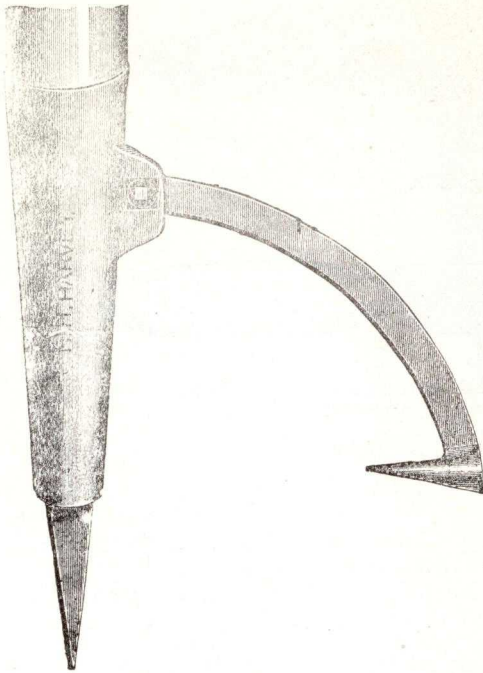
STONE HOOKS and DOGS for
ALL PURPOSES.

Discount on figs.

Chains Made for Any Purpose, Also
COIL CHAINS OF BEST B. B. OR CRANE QUALITY.

Also Timber Lugging Hooks,
ADJUSTABLE CHAIN LINKS.

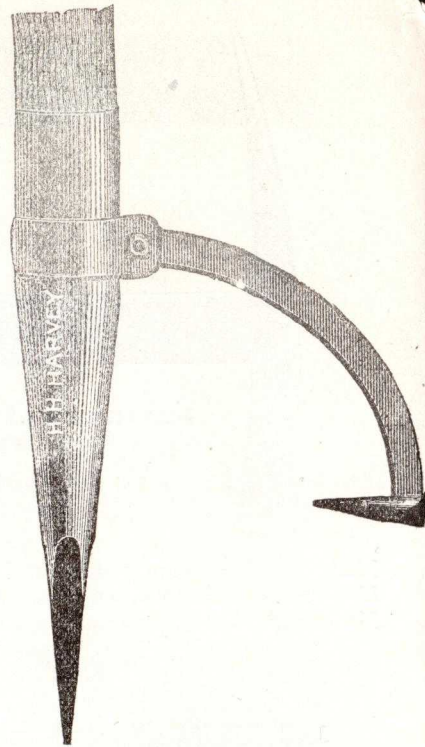
Fig. 166.



RIVERMAN'S CANT DOG.

Best in the market.

Fig. 167.



RIVERMAN'S CANT DOG.

Figs. 166 and 167.

		Diameter of Stock.	Length of Stock.		Price either style.
No. 1.	. . .	2 1/4 in. . .	4 ft. to 6 ft. . .	for log driving . . .	\$1.40 each.
" 2.	. . .	2 3/8 in. . .	" " . . .	for mill use . . .	1.50 "
" 3.	. . .	2 1/2 in. . .	" " . . .	" " . . .	1.60 "
" 4.	. . .	2 in. . .	" " . . .	use in woods . . .	1.70 "
" 5.	. . .	3 in. . .	5 ft. to 6 ft. . .	" " . . .	2.15 "

Fig. 168.



PICKEROONS.

Common sizes pickeroons \$9.00 per dozen.

ALSO PICKPOLES AND PICKS COMPLETE.

White ash pickpoles and picks complete, from 12 to 16 feet long . . . \$9.00 per doz.
Spruce " " " " 12 to 18 " . . . 7.00 "

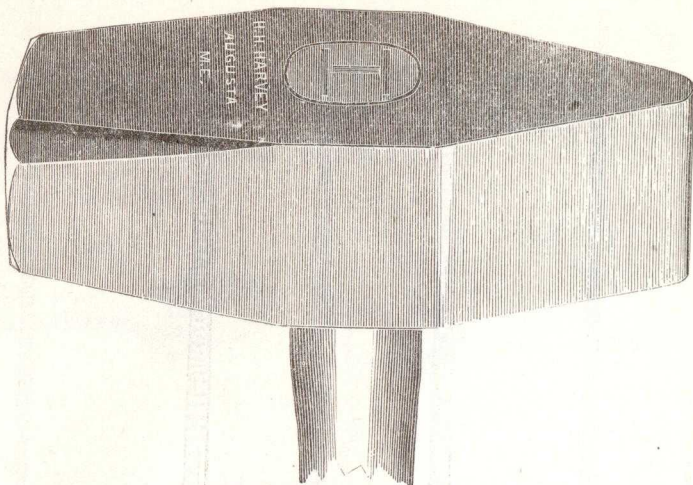
BATTEAU OARS AND PADDLES OF THE VERY BEST QUALITY.

Oars of usual length \$12.00 per doz.
Paddles " 12.00 "

**BINDING CHAINS,
CROW BARS ETC.**

Discount on figs. _____

Fig. 169.

**COOPERS' HAMMER.**

Made from solid crucible cast steel, polished all over and handled.

From 4 lbs. to 5 lbs.	.....	\$15.00 per dozen
" 3 " to 3 3/4 "	.....	13.00 "
" 2 " to 2 3/4 "	.....	12.00 "

Fig. 170.

Fig. 171.

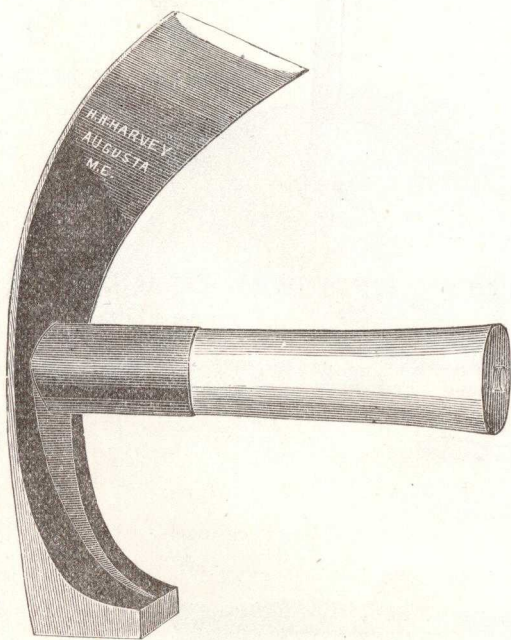
**COOPERS' ADZES.**

Fig. 170 made from solid crucible cast steel.

Nos. 1	2	3
\$27.00	\$28.80	\$30.00 per dozen.

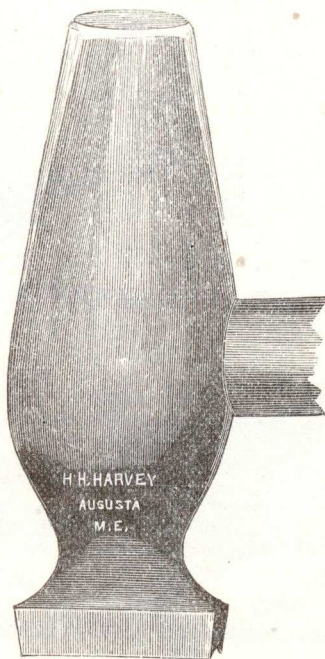
**COOPERS' DRIVERS.**

Fig. 171 made from solid cast steel.

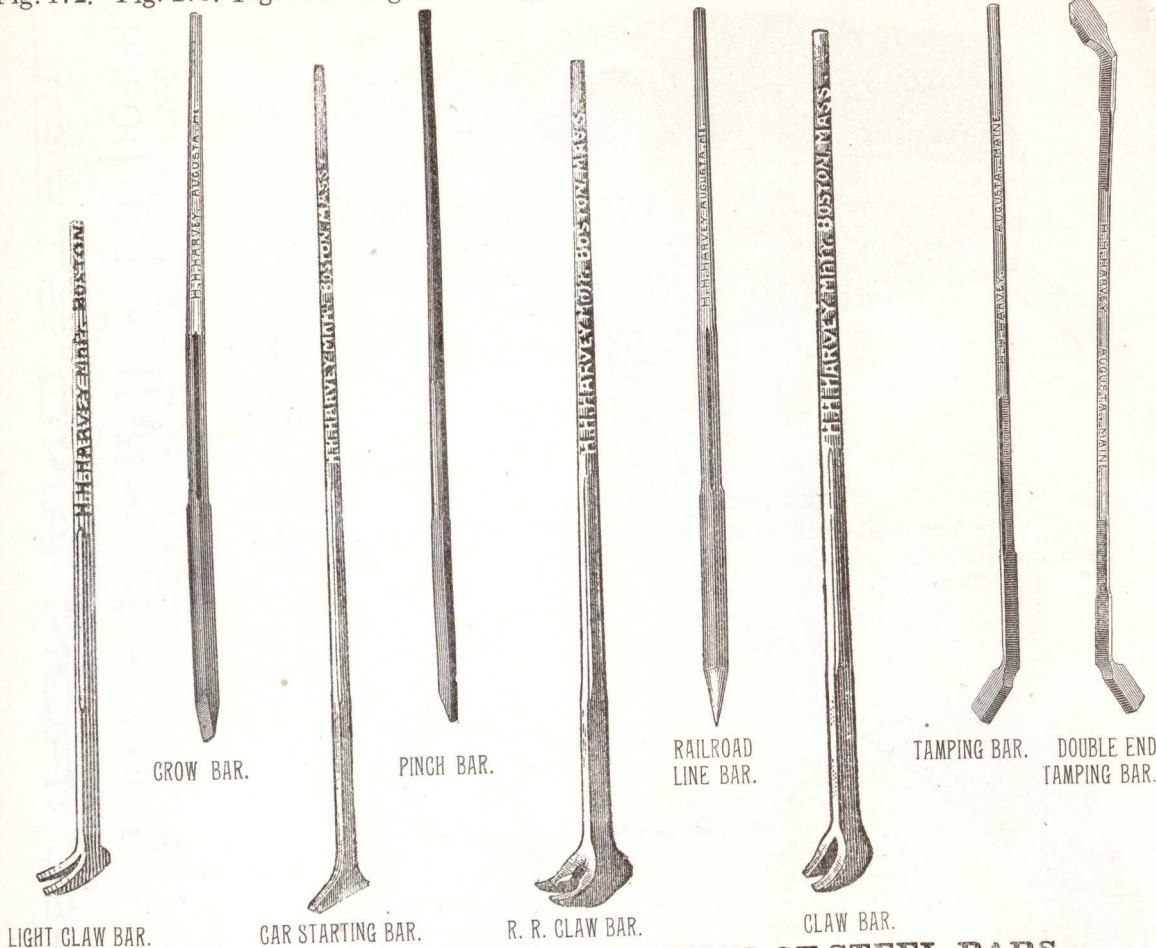
Weight, 12 oz.	.....	\$8.50 per dozen.
" 1 lb.	.....	9.00 "
" 1 lb. 4 oz.	.....	9.50 "

Hammers - and - Tools - for - All - Purposes.
WIRE ROPE, IRON AND STEEL.

Send for Our Prices Before Buying.

Discount on figs. _____

Fig. 172. Fig. 173. Fig. 174 Fig. 175. Fig. 176. Fig 177. Fig. 178. Fig. 179. Fig. 180.



THESE ARE ALL EXTRA QUALITY OF STEEL BARS.

			Per Dozen or more per lb.	Less than 6 per lb.
Fig. 172	Light Steel Claw Bar,	- - - All sizes above 7 lbs. and under 12 lbs.	.12½c	.15c
" 173, 175 & 177	Crow, Pinch and Line Bars	from 10 to 30 lbs. - - -	.05c	.06c
" 174	R. R. Car Starting Bar	Extra Quality - - -	.08c	.10c
" "	"	Extra for Heel 75c each.		
" 176	" Claw Bar	Extra Quality - - -	.08c	.10c
" "	"	Extra for Heel 75c each.		
" 178	"	Extra Quality - - -	.08c	.10c
" "	"	Extra for Heel 75c each.		
" 179	Single End Tamping Bar	Extra Quality - - -	.08c	.10c
" 180	Double End	" " " " - - -	.10c	.12c



Fig. 181. GIANT SPIKE EXTRACTOR OR SHACKLE BAR.

Made from solid crucible cast steel. Weight about 17 lbs. price \$5.50 each.

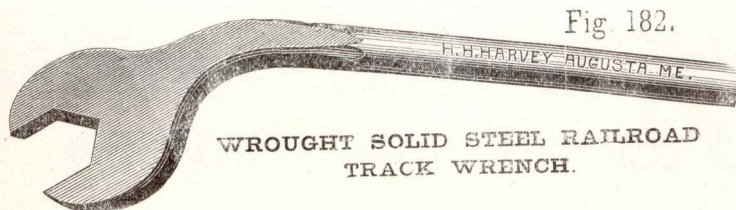


Fig. 182.

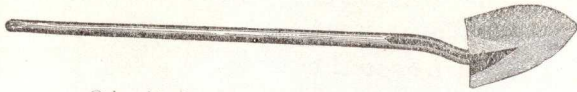
WROUGHT SOLID STEEL RAILROAD
TRACK WRENCH.

Fig. 182 These are made from
solid cast steel.

Weight from 5 to 6 lbs. length from
24 to 26 inches.

Per dozen - - 20c per lb.
In less than dozen lots 22c "

Fig. 183.

Style **A** Long or short handle contractors' shovel.

Other kinds and brands in stock or at short notice.

Fig. 185.

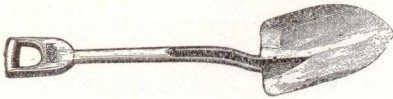
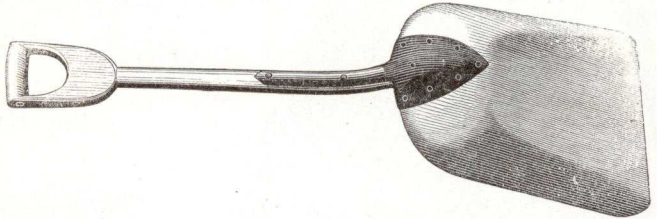
Style **C** Contractors' shovel.

Fig. 184.

Style **B** Contractors' shovel.

Fig. 186.

Style **D** Coal shovel.

Style A, B and C contractors' steel

shovels long or short handles, round or square points.

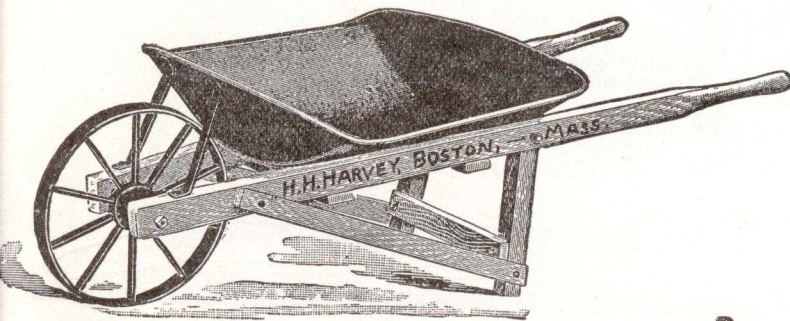
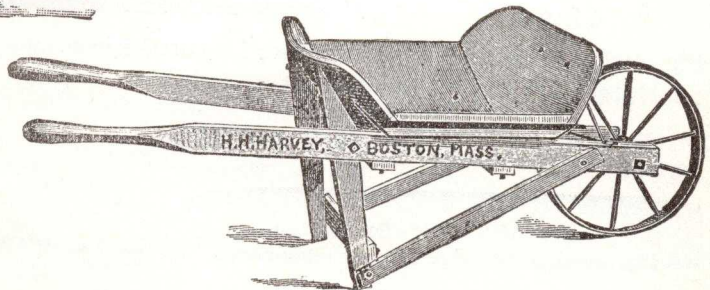
No. 2 per dozen — \$ 7.00

" 3 " " 7.50

Our shovels are of a superior quality
and style and are made from the best
of Cast steel.

Style D coal scoops.

No. 2	per dozen	— \$	
" 3	"	-	9.50
" 4	"	-	9.75
" 5	"	-	10.00
" 6	"	-	10.50
" 7	"	-	10.75
" 8	"	-	11.00

Fig. 188 Wooden Tray
Wheel Barrow.Fig. 187 Steel Tray
Wheel Barrow.

The most Substantial, Cheapest and Best Steel Tray Barrow yet manufactured. Specially adapted for Heavy Work. The best Barrow on the market for Street Pavers. The tray of fig. 187 is best steel, pressed from a single sheet, without joint, seam or rivet. Stronger and more durable than riveted iron trays of same thickness. The flange of tray is turned over a 5-16 inch rod, which passes entirely around the tray, giving a smooth finish to the edge of bowl, preventing breaking, and stiffening and strengthening it.

Fig. 188 Full size, bent tray; planed and well finished. All parts bolted, not nailed. Knocks down completely for shipment, and is easily set up. Will outwear any other Barrow known.

Fig. 187 The Pan American Steel Tray Barrow, Jacobs Patent Wheel.

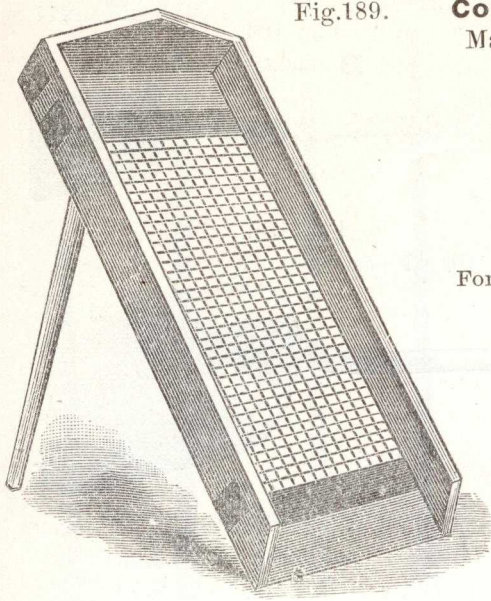
Size of Tray 33x31 in. Depth at Handle End 7½ in. Depth at Wheel End 11 in. Price with Steel Wheel \$39.00 per doz.

Fig. 188 Bolted Railroad or Dirt Barrow Jacobs Patent Wheel.

Diam. of Wheel.	Size of Tire.	Handles.	Size of Tray.	Price with Wood Wheel	\$19.00 per doz.
17 in.	1½ in. wide.	5 ft. long.	33 x 27 in.	" " Steel "	22.00 "

Discount on figs.

Fig. 189.



Common Size Sand, Gravel and Coal Screens.
Made from hardwood in a strong and substantial manner
and provided with wooden or iron leg
as required.

ANY SIZE OF MESH DESIRED.

Price with Wood Leg	- - - -	\$7.00 each.
" Iron "	- - - -	7.50 "

JUTE PACKING.

For calking joints in bell pipe, baled in 50 & 100 lb. coils
..... per lb.

Fig. 190.

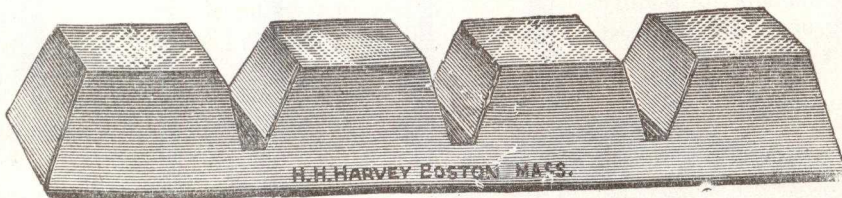


LADLES.

Size	3½ in.	6 in.	7 in.	8 in.	10 in.
Price	.30c	.60c	\$1.20	\$1.50	\$2.50

Fig. 191.

BABBIT METAL.



Babbitt metal for quick running machinery
" " heavy working "

15c per lb.
12½c "

Fig. 192.

Diamond Point Cold Chisel.



Fig. 192. Diamond point cold chisel for cutting iron pipe. Common length 9 to 10 inches.

Size of steel	¾ in.	1 in.	1 in.
List price each	.30c	.40c	.45c
" per dozen	\$3.50	\$4.70	\$5.30

Fig. 193. Pipe Yarning Tool.

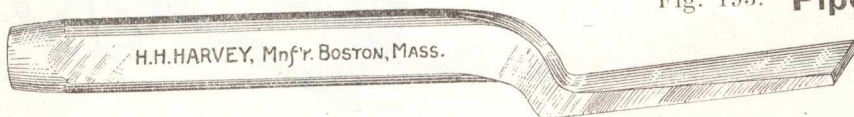
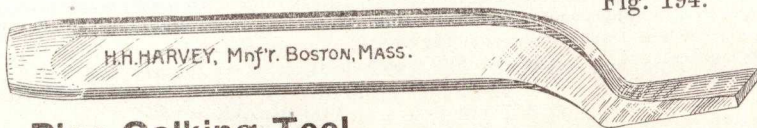


Fig. 194.



Pipe Calking Tool.

Figs. 193 & 194 are made from best crucible granite tool steel, in sets of five pieces Viz: ¼, ½, ¾ and 1 in. blade and a yarning tool. Price per set \$3.00 - Single tools 75 cts. each.

Discount on figs.

Fig. 189.

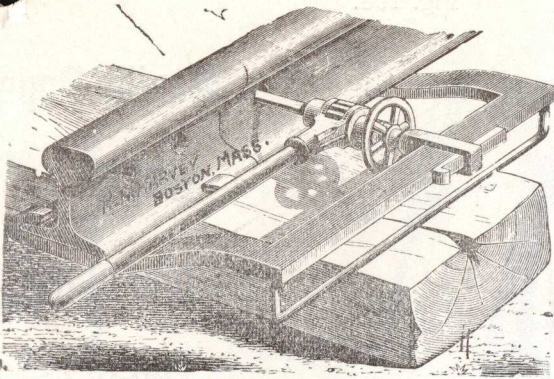


Fig. 189 Underwood Ratchet track drill.
Price \$10.00

Fig. 195.

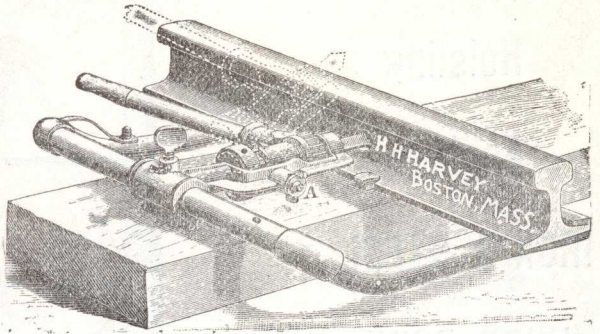
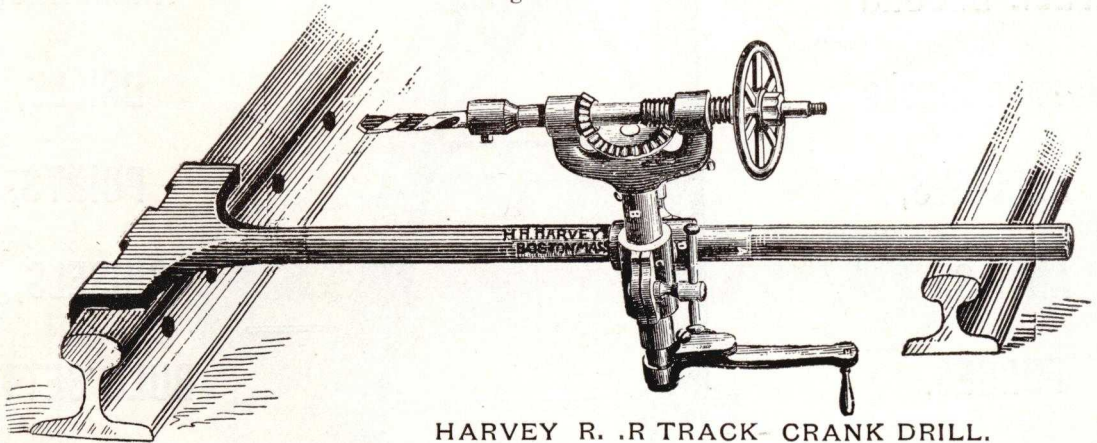


Fig. 190 Warner Ratchet champion track drill.
Both self and hand feed Price \$12.50

Fig. 196.



HARVEY R. R. TRACK CRANK DRILL.

Fig. 191	Size 1	Harvey R. R. Track Crank Drill best made,	Price complete to drill to $\frac{3}{8}$ in. hole	\$25.00
"	" 2	" " " " " "	" " " " 1 " "	30.00

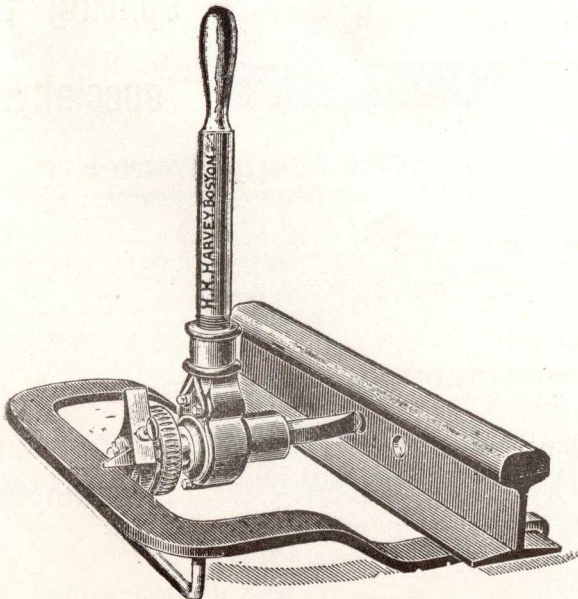


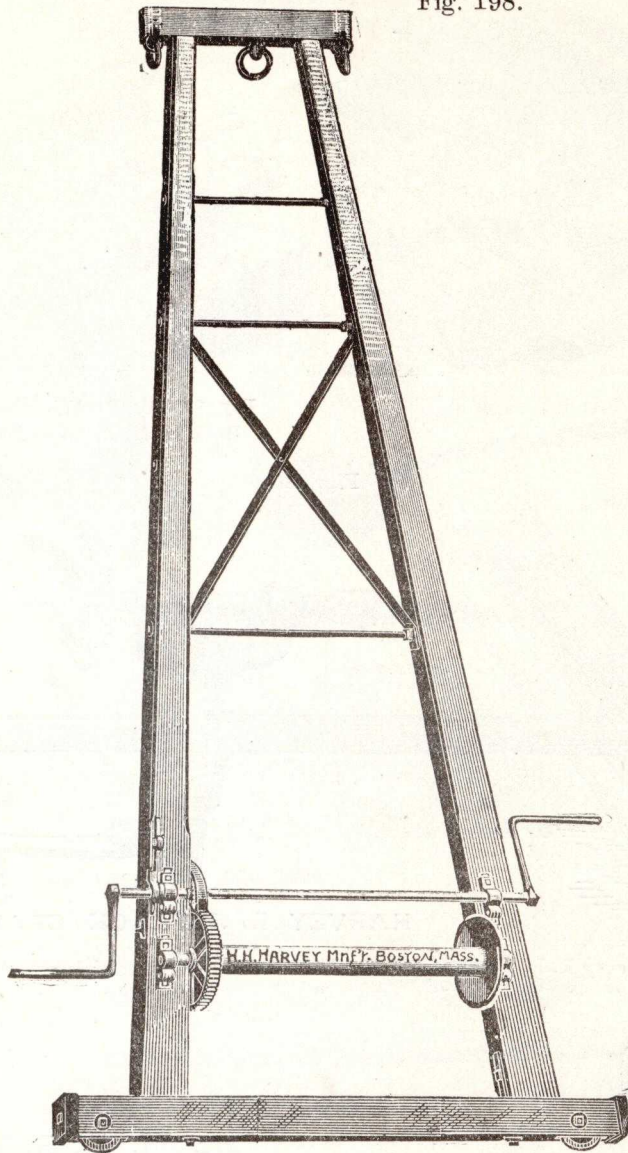
Fig. 197. R. R. TRACK DRILL.

The Noble self feed ratchet R. R. track drill. Price - - - - - \$10.00.

**WE HAVE A FULL STOCK
OF BITS FOR ALL SIZE
DRILLS.**

Fig. 198.

Hoisting
Engines,
IRON & STEEL,
WIRE ROPE,
STEEL BLOCKS
Wooden Blocks
BELLOWS,
ANVILS,
FORGES,
TUYERE IRONS



Manilla Rope
VISES,
DRILLERS,
SWEDGES,
HAMMERS,
DRILLS,
POINTS,
CHISELS,
BULL SETTS.
Wire rope
splicing a
specialty.

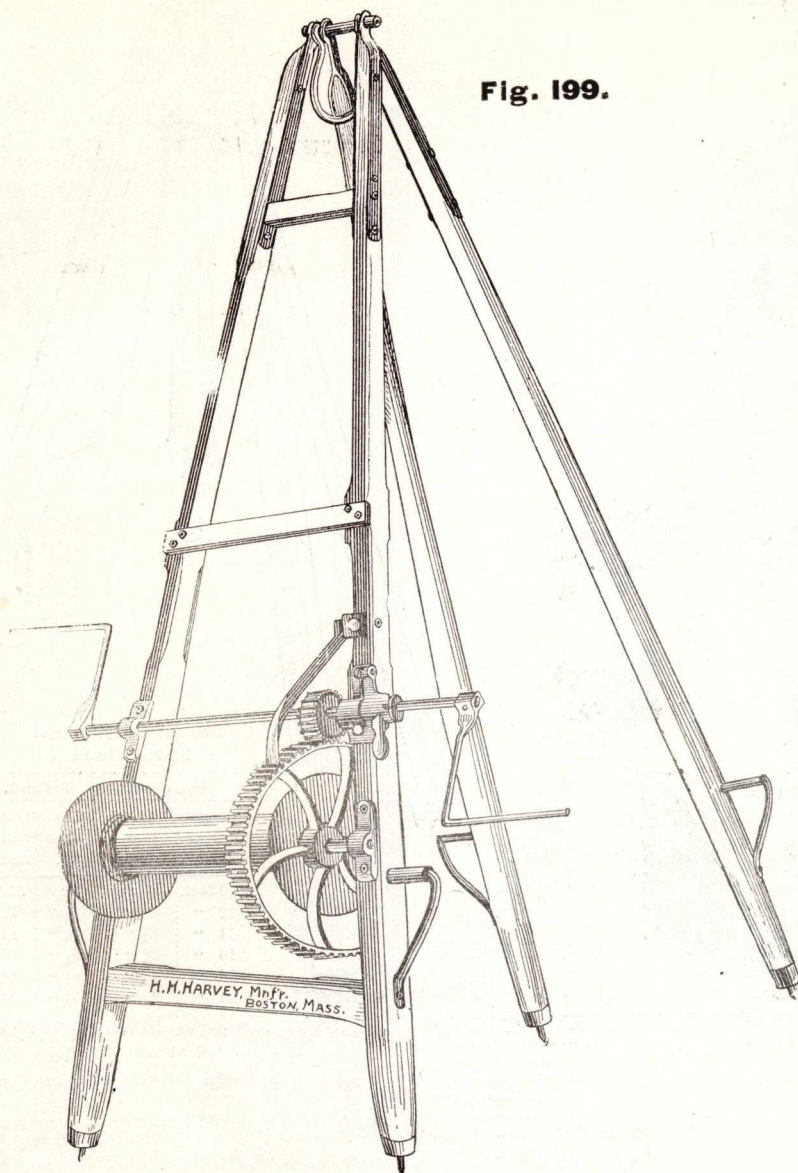
BUILDERS' BREAST DERRICK FOR SETTING MONUMENTS ETC.

	Bare size of upright stick.	Length over all.	Diam. of gear.	Diam. of pinion.	Diam. of drum.	Length of Drum.	Size of drum shaft	Size of crank shaft.	Power with a man at each crank and single line.	Price without rope or blocks.
Light	4 x 6 in.	18 ft.	21 x 13/4 in.	4 to 5 in.	4 to 6 in.	23 to 30 in.	1 1/2 in.	13 3/8 in.	2 1/2 tons.	\$50.00
Heavy	6 x 6 "	21 "	24 x 2 1/4 "	4 to 5 "	4 to 6 "	30 to 40 "	1 3/4 "	15 3/8 "	3 1/2 "	65.00
Ex. heavy	7 x 7 "	30 "	30 x 2 1/2 "	4 to 5 "	4 to 6 "	35 to 44 "	1 7/8 "	13 1/4 "	5 "	85.00

These Breast Derricks are fitted up in the very best manner, All the Wrought Iron is Imported Norway Iron. The Shafts are Steel. The Gears are made from the Toughest Metal. ANY SIZE MADE TO ORDER. THE ABOVE SIZES IN STOCK.

Discount on figs. _____

**Grab Hooks, Chains, Rolls, Cannon Balls, Sledges,
Manilla Rope, Frost Wedges and Shims.**

Fig. 199.

**Wire Rope, Blocks, Jacks, Powder, Fuse
Batteries, Dynamite Cartridges.**

Four Legged Derrick for Laying Iron Pipe etc., etc.

	Size of Large gear	Diam. of Pinion.	Diam. of Drum.	Length of Drum.	Size of steel Drum shaft	Size of steel Crank shaft	Size of legs at base.	Length over all in feet.	Strain on a single line with a man at each crank.	Price.
Light	18 x 1½	4 to 5 in.	1½ to 5	18 in.	1½	1½	4 x 4 in.	12 to 14	about 2½ tons.	\$ 85.00
Heavy	21 x 1¾	4 to 5 "	1½ to 5	18 "	1½	1½	4 x 5 "	14 to 15	" 3 "	100.00
Ex. heavy	24 x 2	4 to 5 "	1½ to 5	23 "	1½	1½	5 x 6 "	16 to 18	" 3½ "	125.00

Other Sizes Made to Order also with Double Purchase if Desired.

These four legged derricks are fitted in the very best manner. All the Wrought Iron work is the Best Imported Norway Iron. The Shafts and Pin are all Steel.

The Gears are made from the Toughest Metal.

Discount on figs. _____

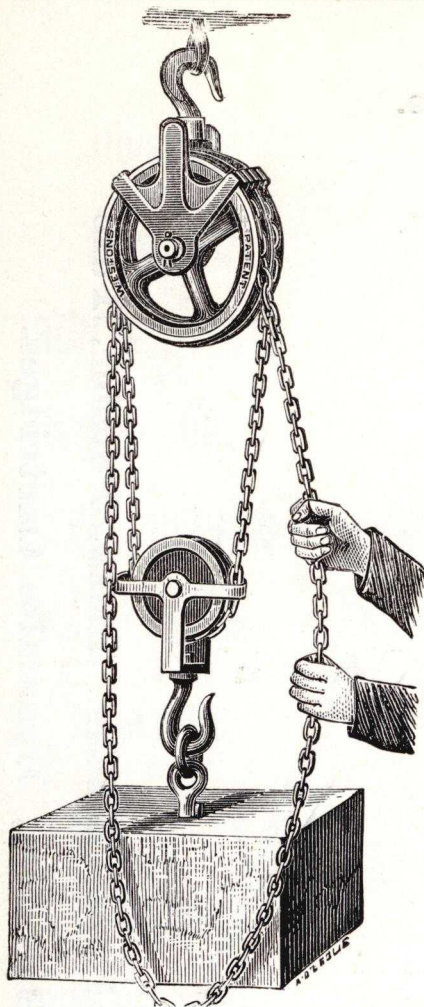


Fig. 201. DIFERENTIAL PULLEY HOIST.

Capacity tested to.	Regular len'th of chain	Will lift.	Price complete each	Extra chain price per foot.
1/4 ton.	22 feet.	6 feet.	\$13.00	36 cents.
1/2 "	26 "	7 "	15.00	38 "
3/4 "	26 "	7 "	17.00	83 "
1 "	30 "	8 "	20.00	40 "
1 1/2 "	33 "	8 1/2 "	25.00	42 "
2 "	36 "	9 "	30.00	44 "
3 "	38 "	10 "	40.00	48 "

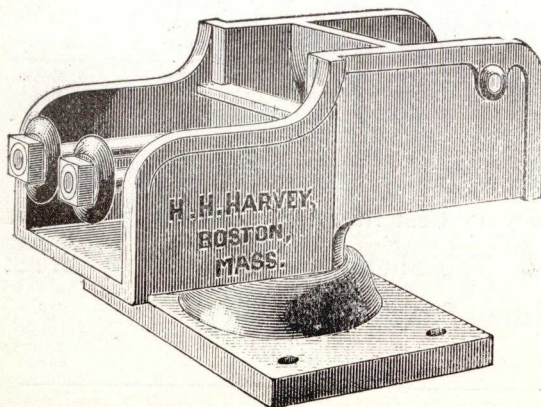


Fig. 202. Improved Mast and Boom Seat Combined.

All Inside Measurements.

Price Complete with bolts & nuts as shown.

For Mast.	For Boom.	
10 inch.	8 inch.	\$12.00
12 "	10 "	18.00
14 "	12 "	25.00

Discount on figs. _____

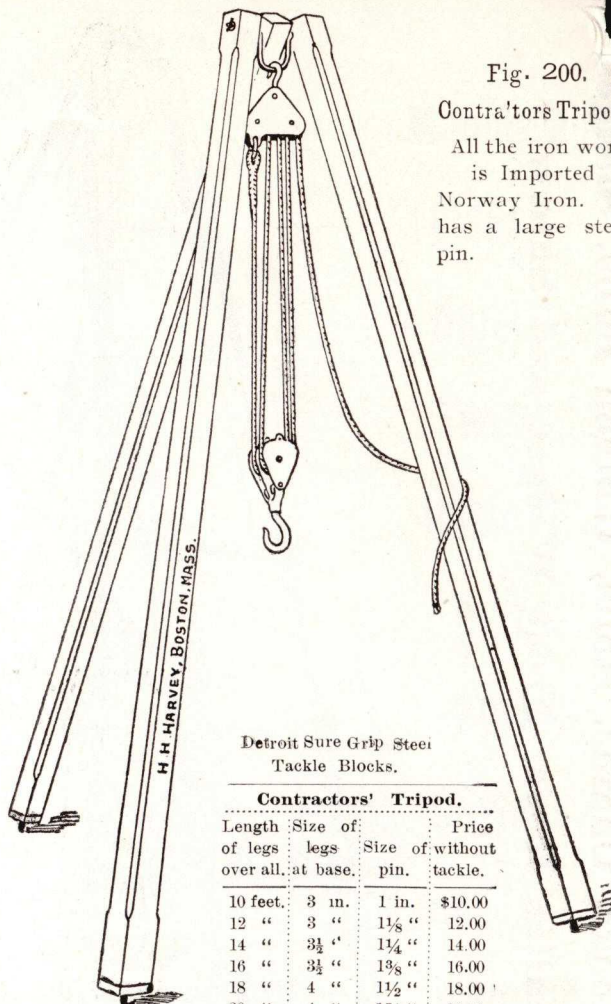


Fig. 200.

Contractors Tripod.

All the iron work is Imported Norway Iron. It has a large steel pin.

Detroit Sure Grip Steel Tackle Blocks.

Contractors' Tripod.

Length of legs over all.	Size of legs at base.	Size of pin.	Price without tackle.
10 feet.	3 in.	1 in.	\$10.00
12 "	3 "	1 1/8 "	12.00
14 "	3 1/2 "	1 1/4 "	14.00
16 "	3 1/2 "	1 3/8 "	16.00
18 "	4 "	1 1/2 "	18.00
20 "	4 "	1 5/8 "	20.00

Revised prices of the Detroit Sure-Grip Steel Tackle Blocks. Shown attached to fig. 200.

No. 3.—To be used with 3-8 rope. One man can lift 300 lbs.	
Capacity - - 600 "	\$3.00
No. 4.—To be used with 1-2 in. rope. One man can lift 350 "	
Capacity - - 1000 "	5.50
No. 5.—To be used with 5-8 in. rope. One man can lift 400 "	
Capacity - - 1800 "	7.00
No. 6.—To be used with 3-4 in. rope. One man can lift 400 "	
Capacity - - 2500 "	8.50
No. 4 1/2.—To be used with 1-2 in. rope. One man can lift 600 "	
Capacity - - 3600 "	10.00
No. 5 1/2.—To be used with 5-8 in. rope. One man can lift 700 "	
Capacity - - 3500 "	12.00
No. 6 1/2.—To be used with 3-4 in. rope. One man can lift 850 "	
Capacity - - 5000 "	14.00

FIG. 203. STONE YARD DERRICK INNER AND OUTER LIFT.

Are made from Imported Norway Iron or Soft Steel no welds.
Size 1 for 5 tons working strain, weigh about 60 lbs. price \$12.00
" 2 " 15 " " " 7.5 " 15.00
" 3 " 25 " " " 9.0 " 20.00

H.H.HARVEY
BOSTON,
MASS.

FIG. 205 MAST BOTTOM & PLAIN STEP.

	Inside measurements	For size of mast.	Price.
Size 1	8 x 8 in.	9 in.	\$ 7.50
" 2	9 x 9 "	10 "	9.00
" 3	10 x 10 "	12 "	11.50
" 4	12 x 12 "	14 "	15.00
" 5	14 x 14 "	16 "	20.00

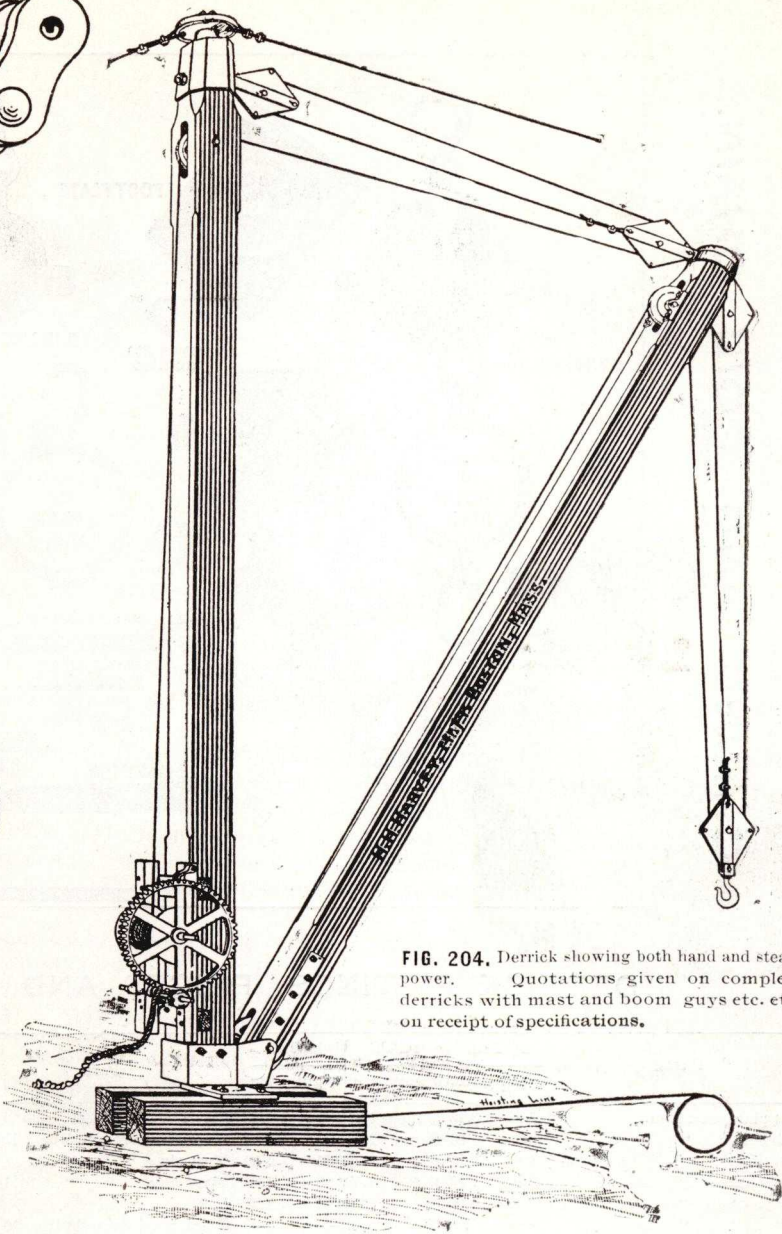
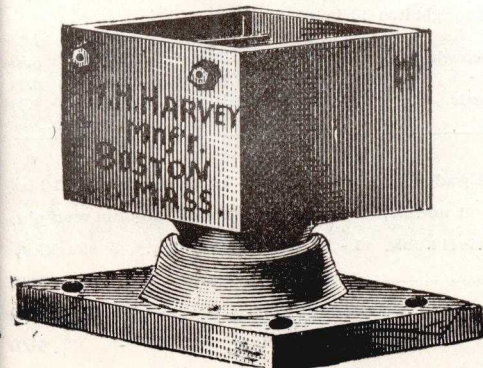
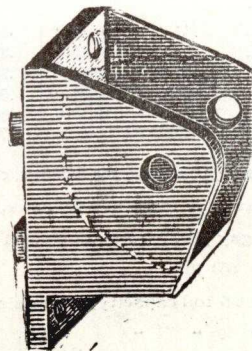


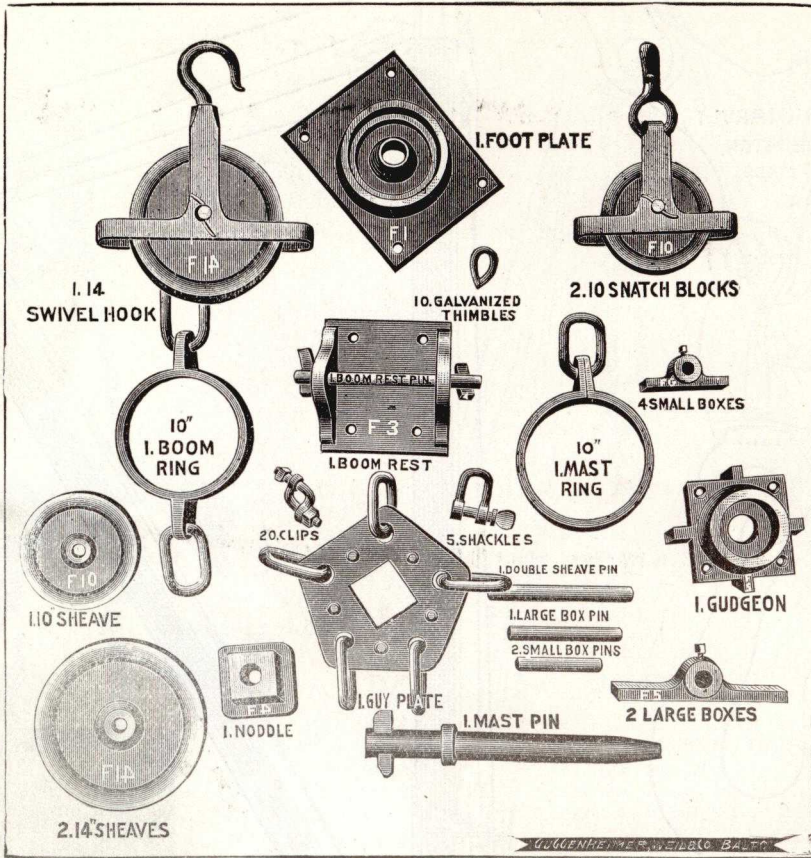
FIG. 204. Derrick showing both hand and steam power. Quotations given on complete derricks with mast and boom guys etc. etc. on receipt of specifications.



Size	Inside measurements for size boom.	Price
1	6 to 8 in.	\$4.00
2	9 to 10 "	4.75
3	11 to 12 "	5.50
4	13 to 14 "	7.00

FIG. 206 IMPROVED BOOM REST WITH SEMI-CIRCLE END BEARING.

OX BOWS
 CHAINS AND COIL
 CHAIN.



DERRICKS, WINCHES, CRABS,
 IRON AND WOODEN BLOCKS.

DERRICK FITTINGS, PRICES AND CAPACITY.

Parts.	2½ Ton.		5 Ton.		10 Ton.		Parts.	2½ Ton.		5 Ton.		10 Ton.	
	w'ght	price.	w'ght	price.	w'ght	price.		w'ght	price.	w'ght	price.	w'ght	price.
Foot plate, cast iron	65 lbs	\$ 3.25	86 lbs	\$ 4.30	130 lb	\$ 6.65	Small box pin, steel	2 lbs	\$.20	2 lbs	\$.20	3 lbs	\$.30
Gudgeon	45 "	2.25	59 "	2.95	90 "	4.50	Guy plate wrought iron 5 link	40 "	4.95	25 "	4.95	50 "	6.00
Boom rest	55 "	2.75	81 "	4.05	120 "	6.00	Mast pin	17 "	1.75	40 "	2.50	35 "	3.50
14 in. sheave	31 "	1.55	31 "	1.55	35 "	1.75	Mast ring 10 in. 1 link	30 "	4.50	30 "	4.50	40 "	7.00
10 " " "	19 "	1.00	19 "	1.00	25 "	1.25	Boom ring, wrought iron 10 in. 2 links	40 "	5.50	40 "	5.50	50 "	8.00
8 " " "	16 "	.80	16 "	.80	20 "	1.00	Swivel hook w'ght iron 14 in.	62 "	8.00	62 "	8.00	75 "	10.00
Large sheave boxes cast iron per pair	36 "	1.80	36 "	1.80	40 "	2.00	Snatch blonks w'ght iron 10 in. no swivel	32 "	5.00	32 "	5.00	40 "	7.00
Small sheave boxes cast iron per pair	16 "	.80	16 "	.80	20 "	1.00	5 shackles wrought iron	13 "	3.50	13 "	3.50	13 "	3.50
Noddle, cast iron	17 "	.85	17 "	.85	25 "	1.25	20 clips	51 "	8.00	51 "	8.00	51 "	8.00
Double sheave pin, steel	7½ "	.75	7½ "	.75	10 "	1.00	10 thimbles galv.	6 "	1.50	6 "	1.50	6 "	1.50
Boom rest	4½ "	.45	5 "	.50	7½ "	.75							
Large box	3 "	.30	3 "	.30	5 "	.50							

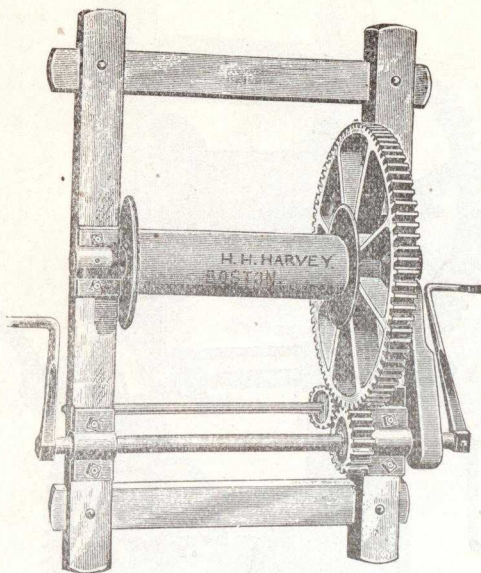
Price one complete set 2½ ton capacity fittings, comprising 1 foot plate, 1 gudgeon, 1 boom rest, 2 - 14 in. sheaves, 1 - 10 in. sheave, 1 - 8 in. sheave, 2 large sheave boxes, 4 small sheave boxes, 1 noddle, 1 double sheave pin, 1 boom rest/pin, 2 small box pins, 1 guy plat, 1 mast pin, 1 mast ring, 1 - 14 in. swivel hook, 1 - 10 in. snatch block, 5 shackles, 20 thimbles, weighing 650 lbs. \$60.00

Price one complete set 5 ton capacity, comprising same pieces as 2½ ton set and weighing 700 lbs. 65.00

" " " 10 " " " " " " " 900 " " " 80.00

Discount on figs.

Wire and
Manilla
Rope,
Crow and
Pinch Bars
Blocks,
Rolls, etc.



Iron & Steel
Steam
Hoists,
Etc., Etc.
Etc.

Fig. 207.

SINGLE PURCHASE DERRICK WINCH WITH LAZY SHAFT.

For Stone Quarries, Loading Cars, Dry Masonry Work etc.

We also make them with the gears outside the frame with a small handle on the large gear for winding up the slack rope quickly, at the same price.

The above cut represents our Improved Derrick Winch, single geared. This little machine is a model of simplicity and strength, having a capacity with two man power from 3000 to 5000 lbs. on a single line. It is made from the best of materials, the frame being selected hard wood. The drum is 23 in. long between 12 in. flanges. The cranks are 14 to 18 in. leverage, the shafts are made from the best machinery steel, and the boxes are the best metal. The gears are cast from the best American cast iron, having a tensile strength of 31,829 lbs., and are calculated to withstand any ordinary strain. — Each machine has a paul.

Those whose work does not require a hoisting engine or drum, and yet demands a hoisting power that can be readily and easily moved from place to place, will find our Winch just the piece of machinery to fill the want. We can sell this Winch at a very low figure, and for the price, it is the cheapest device to which man-power can be applied. We can vary the size of the drum as desired.

Price of Fig. 207 Single Purchase Derrick Winch for Manilla Rope.

No.	Size of Large gear	Diameter of Pinion	Diameter of Drum	Length of Drum	Size of steel Drum shaft	Size of steel Crank shaft	Strain on a single line with man at each crank Single — Double	Price	Price with Lazy shaft
1	18 x 1½	4 to 5	1½ to 6	18 in.	1½	1½	6000 lbs.	\$22.00	\$25.00
2	21 x 1¾	4 to 5	1½ to 6	18 "	1½	1½	7000 "	25.00	28.00
3	24 x 2	4 to 5	1½ to 6	23 "	1½	1½	8100 "	30.00	33.00
3½	24 x 2½	4 to 5	1½ to 6	23 "	1¾	1½	8100 "	35.00	38.00
3½	30 x 2½	4 to 5	1½ to 6	23 "	1¾	1¾	10100 "	42.00	46.00

FOR WIRE ROPE.

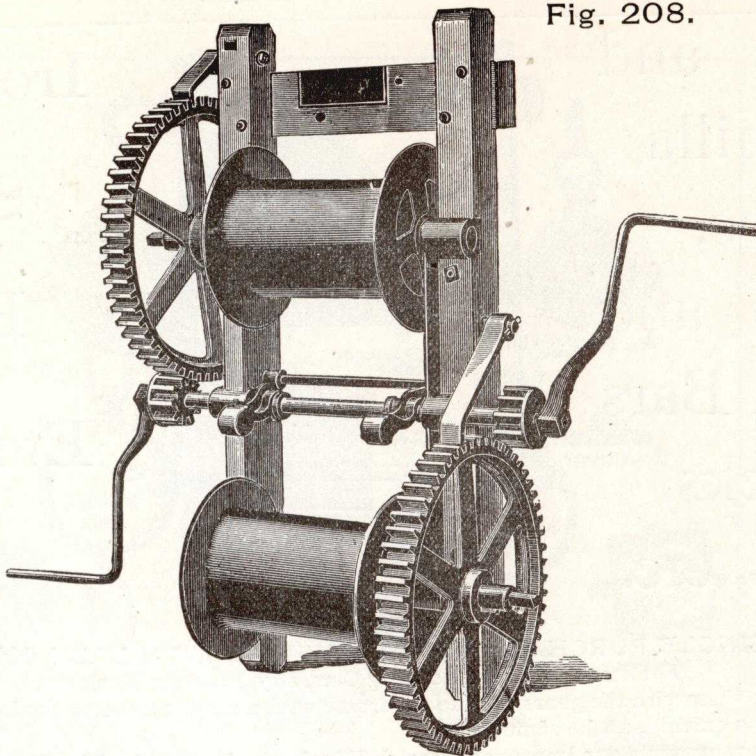
1	18 x 1½	4 to 5	8 to 10	15 in.	1½	1½	2000 lbs.	22.00	25.00
2	21 x 1¾	4 to 5	8 to 10	15 "	1½	1½	2200 "	25.00	28.00
3	24 x 2	4 to 5	8 to 10	18 "	1½	1½	2500 "	30.00	33.00
3½	24 x 2½	4 to 5	8 to 10	18 "	1¾	1½	2500 "	35.00	38.00
3½	30 x 2½	4 to 6	8 to 10	18 "	1¾	1¾	3500 "	42.00	46.00

We Manufacture All Sizes of Winches.
See Next Page for Double Winches etc.

Fig. 208.

WIRE - ROPE.
IRON - BLOCKS

SHEAVES.



JACKS OF ALL KINDS.

CORDAGE AND MARLIN.

DOUBLE DRUM SINGLE PURCHASE WINCH.

FOR MANILLA ROPE.

No.	Size of Large gear.	Diameter of pinion.	Diameter of drum.	Length of drum.	Size of steel drum shaft.	Size of steel crank shaft.	Strain on a single line with man at each crank about	Price	Price with lazy shaft connected with both drums.
4	21 x 1 $\frac{3}{4}$	4 to 5 in.	1 $\frac{1}{2}$ to 6	18 in.	1 $\frac{1}{2}$	1 $\frac{3}{8}$	4500 lbs.	\$48.00	\$54.00
5	24 x 2	4 to 5 "	1 $\frac{3}{8}$ to 6	23 "	1 $\frac{5}{8}$	1 $\frac{1}{2}$	5000 "	54.00	60.00
6	24 x 2 $\frac{1}{4}$	4 to 5 "	1 $\frac{3}{8}$ to 6	23 "	1 $\frac{3}{4}$	1 $\frac{3}{8}$	5000 "	62.00	69.00
6 $\frac{1}{2}$	30 x 2 $\frac{1}{2}$	4 to 5 "	1 $\frac{7}{8}$ to 6	23 "	1 $\frac{7}{8}$	1 $\frac{1}{2}$	6500 "	75.00	83.00

SAME WINCH AS ABOVE FOR WIRE ROPE.

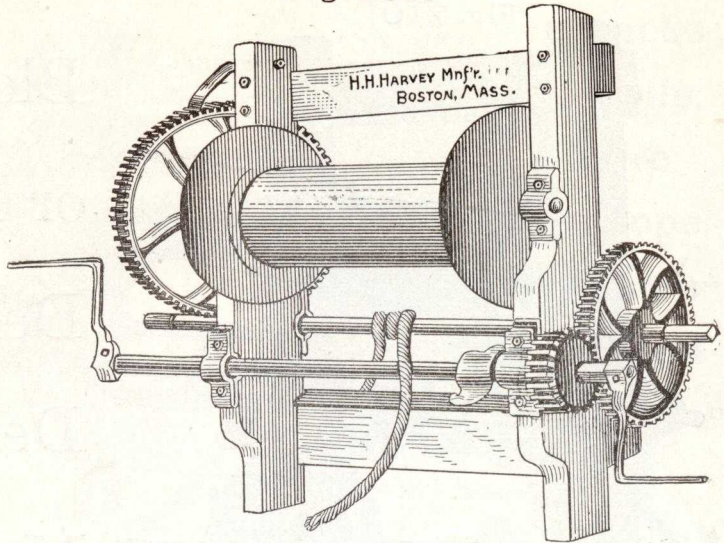
4	21 x 1 $\frac{3}{4}$	4 to 5 "	8 to 10	18 to 20 "	1 $\frac{1}{2}$	1 $\frac{3}{8}$	2200 "	48.00	54.00
5	24 x 2	4 to 5 "	8 to 10	18 to 20 "	1 $\frac{5}{8}$	1 $\frac{1}{2}$	2500 "	54.00	60.00
6	24 x 2 $\frac{1}{4}$	4 to 5 "	8 to 10	18 to 20 "	1 $\frac{3}{4}$	1 $\frac{3}{8}$	2500 "	62.00	69.00
6 $\frac{1}{2}$	30 x 2 $\frac{1}{2}$	4 to 5 "	8 to 10	18 to 20 "	1 $\frac{7}{8}$	1 $\frac{1}{2}$	3200 "	75.00	83.00

The above winches are mounted on solid hard wood frame strongly bolted. It is also if desired provided with lazy shaft for lowering, leaving the handles idle while lowering. They are also provided with handles on the rims of the large gears for winding up the slack rope, not shown in the cut. All shafts are steel, all iron work, cranks, etc., are imported Norway Iron. The gears are cast from the toughest metal. All our winches have pauls. The boxes are in separate pieces. The lazy shaft is not shown in the cut see fig. 207. - We Manufacture All Sizes Of Winches.

NORWAY IRON, STRAP IRON & SHIM STEEL. Wire Grease Oils, etc., etc. Picks, Shovels, Chains, Hooks, Stone Dogs Special Tool Steel, Wedges and Shims, Derrick Castings etc.

Discount on figs.

Fig. 209.



Wire Rope, Steel

Blocks, Sheaves,

Jacks of all kinds,

Cordage and

Marlin.

Double Purchase Winch.
FOR MANILLA ROPE.

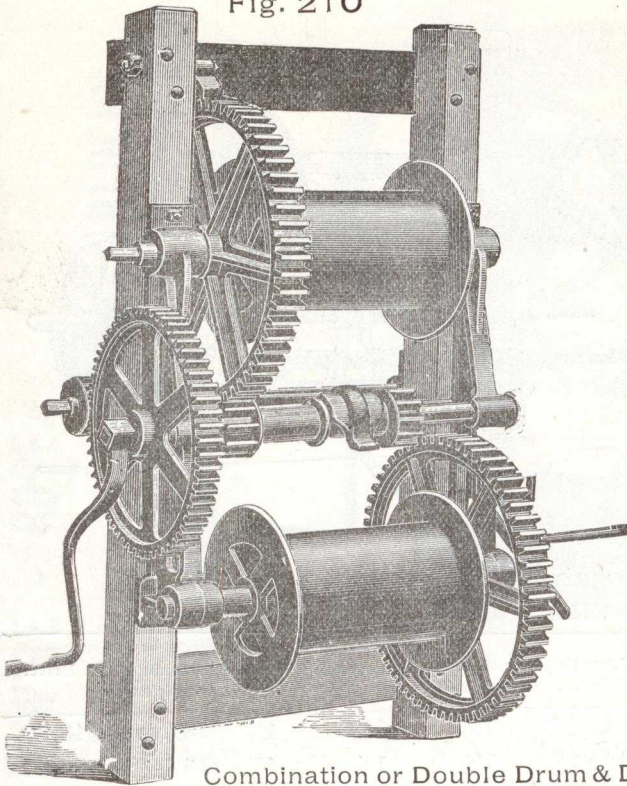
Size.	Size of large gear.	Diameter of small pinion.	* Size of intermediate gears.	Diameter of drum.	Length of drum.	Size of steel drum shaft	Size of steel intermediate shaft.	Size of steel crank shaft.	Strain on single line.	Price.
7	24 x 2	4 to 5	13 x 2	1 3/4 to 6	23 to 27	1 3/4	1 3/8	1 1/2	13 1/2 ton.	\$48.00
8	24 x 2 1/4	4 to 5	13 x 2 1/4	1 3/8 to 6	23 to 27	1 3/8	1 1/4	1 3/8	13 1/2 "	56.00
9	30 x 2 1/2	4 to 5	24 x 2 1/4	2 to 6	23 to 27	2	1 3/8	1 1/4	20 1/4 "	69.00

SAME WINCH AS ABOVE.
FOR WIRE ROPE.

Size.	Size of large gear.	Diameter of small pinion.	Size of intermediate gears.	Diameter of drum.	Length of drum.	Size of steel drum shaft	Size of steel intermediate shaft.	Size of steel crank shaft.	Strain on single line.	Price.
7	24 x 2	4 to 5	13 x 2	8 to 10	18 to 20	1 3/4	1 3/8	1 1/2	8 ton.	\$48.00
8	24 x 2 1/4	4 to 5	13 x 2 1/4	8 to 10	18 to 20	1 3/8	1 1/4	1 3/8	8 "	56.00
9	30 x 2 1/2	4 to 5	24 x 2 1/4	8 to 10	18 to 20	2	1 3/8	1 1/4	12 "	69.00

The above Winches are mounted on solid oak or rock maple frame, strongly bolted. They are also provided with handles on the rims of the large gears for winding up slack rope, not shown in cut. All shafts are steel, all iron work, cranks, etc., are Norway iron. All our winches have pauls.

Fig. 210



Combination or Double Drum & Double Geared Derrick Winch Combined

Blocks for Wire
or Manilla Rope,
Derrick Iron &
Derricks, Wire &
Manilla Rope.

FOR MANILLA ROPE.

Size	Size of Large gear	Size of small pinion	Size of intermediate gear	Diameter of drum	Length of drum	Size of steel drum shaft	Size of steel intermediate shaft	Size of steel crank shaft	Strain on single line	Price
10	24 x 2	4 to 5 x 1 $\frac{3}{4}$	13 x 2	1 $\frac{3}{4}$ to 6	23 to 27 in.	1 $\frac{3}{8}$	1 $\frac{5}{8}$	1 $\frac{1}{2}$	13 $\frac{1}{2}$ tons	\$65.00
11	24 x 2 $\frac{1}{4}$	4 to 5 x 2	13 x 2 $\frac{1}{4}$	1 $\frac{5}{8}$ to 6	23 to 27 "	1 $\frac{5}{8}$	1 $\frac{3}{4}$	1 $\frac{5}{8}$	13 $\frac{1}{2}$ "	74.00
12	30 x 2 $\frac{1}{2}$	4 to 5 x 2 $\frac{1}{4}$	24 x 2 $\frac{1}{4}$	2 to 6	23 to 27 "	2	1 $\frac{3}{8}$	1 $\frac{3}{4}$	25 "	87.00

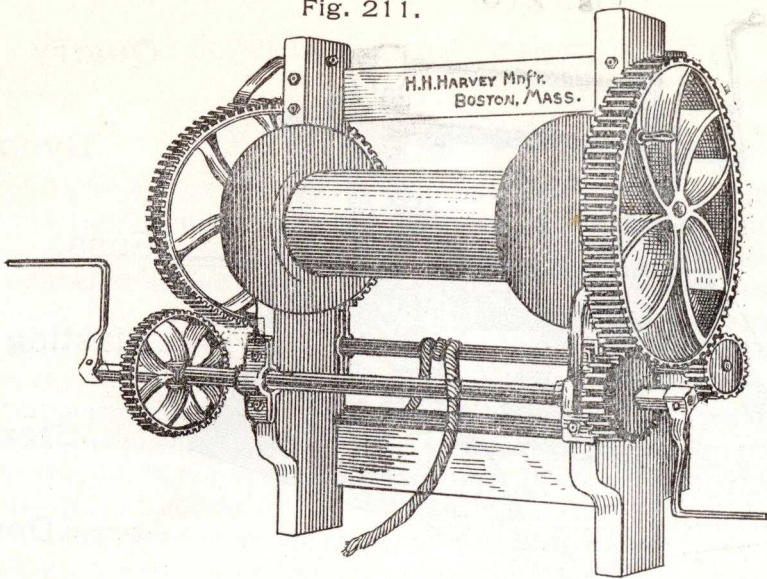
Same Winch As Above For Wire Rope.

10	24 x 2	4 to 5 x 1 $\frac{3}{4}$	13 x 2	8 to 10	18 to 20 "	1 $\frac{3}{8}$	1 $\frac{5}{8}$	1 $\frac{1}{2}$	6 $\frac{1}{2}$ tons	65.00
11	24 x 2 $\frac{1}{4}$	4 to 5 x 2	13 x 2 $\frac{1}{4}$	8 to 10	18 to 20 "	1 $\frac{5}{8}$	1 $\frac{3}{4}$	1 $\frac{5}{8}$	6 $\frac{1}{2}$ "	74.00
12	30 x 2 $\frac{1}{2}$	4 to 5 x 2 $\frac{1}{4}$	24 x 2 $\frac{1}{4}$	8 to 10	18 to 20 "	2	1 $\frac{3}{8}$	1 $\frac{3}{4}$	12 $\frac{1}{2}$ "	87.00

The boxes on this winch are now made separately after the late improved method and the same as on the other winch boxes shown in the cuts on the following pages. All our winches have pauls. The above winch is made of the best materials and workmanship. The boxes are all strong metal, the shafts are all steel, the cranks and all other wrought iron is all imported Norway Iron, and the cranks are all well proportioned for the sizes of all our machines.

**Steel &
Wooden
Blocks,
Steam
Hoists,
Derricks
and
Tripods.**

Fig. 211.



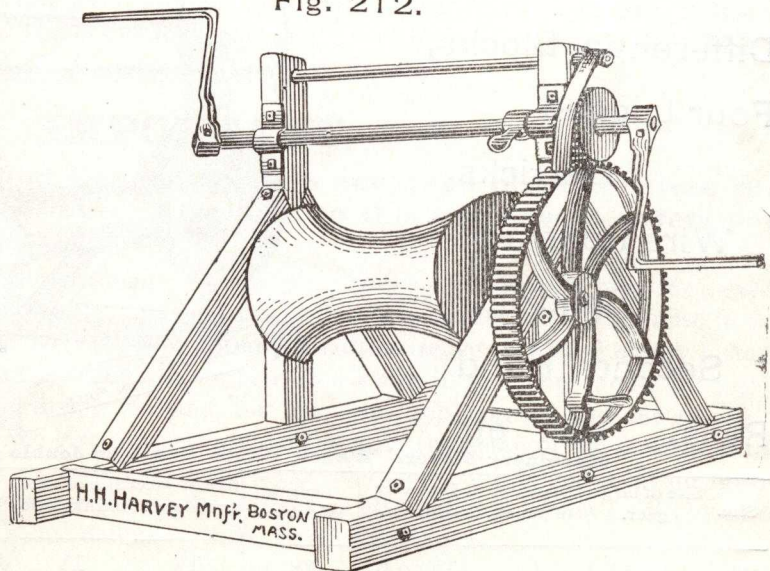
**Jacks
Rolls,
Wire
Rope
Fasten-
ers and
Splicing
a
specialty**

Quick & Slow or Double Speed Quinsey Style Winch with Lazy Shaft for Manilla Rope.

Size	Size of right hand large gear.	Size of pinion to large gear.	Size of left hand large gear.	Size of left hand small gear.	Diameter of Drum.	Length of Drum.	Size of steel		Strain on single line.		Price.	Price
							Drum shaft.	crank shaft.	quick speed	slow speed.		
13	24 x 2	4 to 5 x 2	20 x 1½	7 x 1½ in.	1½ to 6	23 in.	1½	15½	3850 lbs.	8100 lbs.	\$54.00	\$57.00
14	24 x 2½	4 to 5 x 2½	20 x 2	7 x 2 "	1½ to 6	23 "	1½	13¼	3850 "	8100 "	62.00	66.00
15	30 x 2½	4 to 5 x 2½	24 x 2½	10 x 2½ "	2 to 6	23 "	2	17½	3240 "	10100 "	75.00	80.00
SAME WINCH AS ABOVE FOR WIRE ROPE.												
13	24 x 2	4 to 5 x 2	20 x 1½	7 x 1½ "	8 to 10	18 "	1½	15½	1920 "	4050 "	54.00	57.00
14	24 x 2½	4 to 5 x 2½	20 x 2	7 x 2 "	8 to 10	18 "	1½	13¼	1920 "	4050 "	62.00	66.00
15	30 x 2½	4 to 5 x 2½	24 x 2½	10 x 2½ "	8 to 10	18 "	2	17½	1620 "	5050 "	75.00	80.00

Fig. 212.

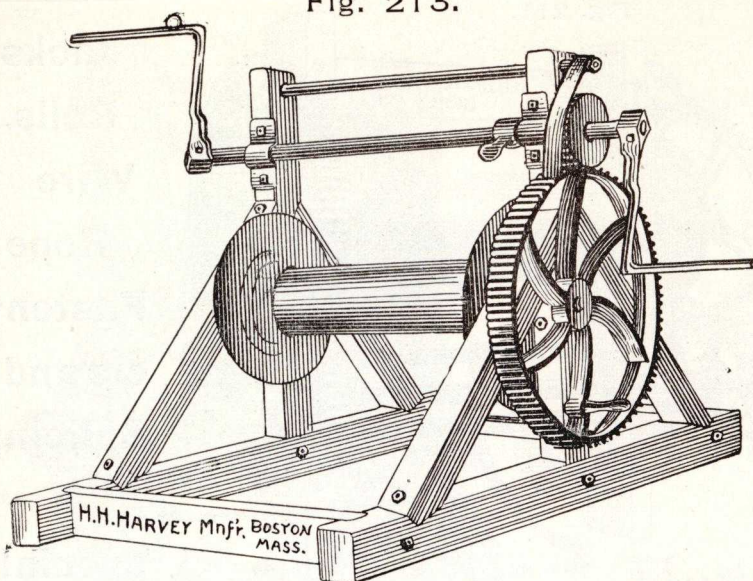
**Wire & Manilla
Rope, Steel and
Wooden Blocks,
Quarry Outfits
and Contractors'
Supplies our
Specialties.**



Capstan Crab Winch for various purposes, with paul & gear pin to wind up the slack.

Size.	Size of large Gear.	Size of Small Gear.	Diameter of Drum.	Length of Drum.	Size of steel Drum shaft.	Size of steel Crank shaft.	Strain on single line.	Price single Purchase.	Price double purchase.
16	18 x 1½	4	6	15	1½	1½	4050 lbs.	\$24.00	\$40.00
17	21 x 1¾	4	6	15	1½	1½	4125 "	27.00	46.00
18	24 x 2	4	6	15	1½	1½	5400 "	33.00	56.00
19	24 x 2½	4	6	15	1½	1½	5400 "	38.00	67.00
20	30 x 2½	4	6	15	1½	1½	6750 "	46.00	79.00

Fig. 213.



Quarry Supplies,

Dynamite,

Fuse, Powder,

Blasting Batteries,

Steam Drills,

Derricks.

Contractors' Crab Winch single or double purchase with paul.

Size.	Size of large gear.	Diameter of pinion.	Diameter of drum.	Length of drum.	Size of steel drum shaft.	Size of steel crank shaft.	Strain on single line with a man at each crank.		Price single purchase.	Price double purchase.
							sin. purchase	double pur.		
21	18 x 1½	4	1½ to 6	18	1½	1%	4050 lbs.	12150 lbs	\$23.00	\$39.00
22	21 x 1¾	4	1½ to 6	18	1½	1%	4725 "	14175 "	26.00	45.00
23	24 x 2	4	1¾ to 6	23	1%	1½	5400 "	18900 "	32.00	55.00
24	24 x 2¼	4	1¾ to 6	23	1¾	1%	5400 "	18900 "	37.00	66.00
25	30 x 2½	4	1¾ to 6	23	1%	1¾	6750 "	30375 "	45.00	78.00

Tripods

Fig. 214.

Differential Blocks,

Four Legged

Derricks,

Wire Rope and

Splicing,

Second Hand

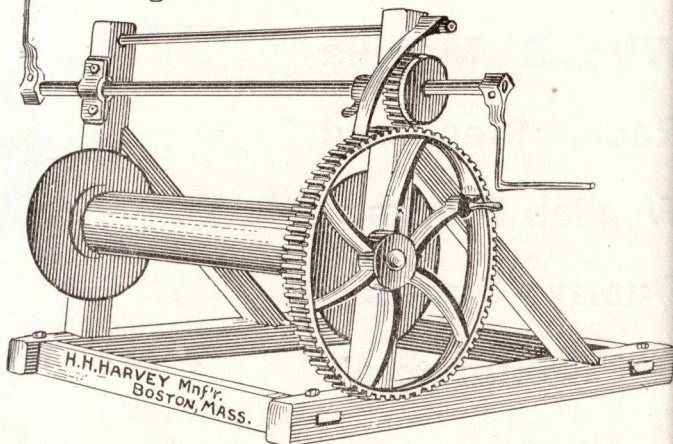
Rails, etc. etc.

Machinery Movers' Wagon Winch single or double purchase with paul.

Size.	Size of large gear.	Diameter of pinion.	Diameter of drum.	Length of drum.	Size of steel drum shaft.	Size of steel crank shaft.	Strain on single line with man at each crank.		Price single purchase.	Price double purchase.
							sin. purchase	double pur.		
26	18 x 1½	4	1½ to 6	18	1½	1%	4050 lbs.	12150 lbs	23.00	39.00
27	21 x 1¾	4	1½ to 6	18	1½	1%	4725 "	14175 "	26.00	45.00
28	24 x 2	4	1¾ to 6	23	1%	1½	5400 "	18900 "	32.00	55.00
29	24 x 2¼	4	1¾ to 6	23	1¾	1%	5400 "	18900 "	37.00	66.00
30	30 x 2½	4	2¾ to 6	23	1%	1¾	6750 "	30375 "	45.00	78.00

The above winches are made from the best material. All wrought iron work cranks, pauls, etc. are made from the best imported Norway iron. Best hard wood is used for the frame, morticed and solid bolted. All shafts are steel.

Discount on fig.



REMARKS ON THE USE OF WIRE ROPE.

It is almost impossible to enumerate the different uses to which wire rope is adapted, new uses are being continually found for it. In most cases it is more economical and more suitable for the work than either hemp rope, chain or iron rods. The wire rope generally in use is composed of a hemp center around which are laid six strands of seven, nine, twelve or nineteen wires, thus forming a rope of either forty-two, fifty-four, seventy-two or one hundred and fourteen wires. Ropes with seven wires are generally used for standing ropes, guys, transmission of power, etc. Ropes with nine wires are generally used for haulage ropes in mines, on inclines and for transmission of power. Those with twelve wires to the strand are generally used for ship rigging and those with nineteen wires for hoisting. Wire rope is as pliable as hemp rope of equal strength, and therefore, can be operated over drums and sheaves of the same size, and is far more durable and efficient.

The durability of wire rope depends principally upon the diameter of the sheaves or drums: the greater the diameter of the sheaves or drums the longer the rope will last.

Experience proves that the wear increases with the speed. It is better to increase the load than the speed. One-fifth of the ultimate strength of rope is considered a fair working load.

Wire rope must not be coiled or uncoiled like hemp rope. When not on a reel, roll on the ground like a wheel or hoop to prevent kinking or untwisting.

Galvanized rope should never be used for running rope.

It is recommended to use as few idlers as possible. In a great many cases they do more harm than good. For transmission of power the sheaves should be lined with leather or India rubber to secure increased adhesion and prevent wear. The use of cast steel rope is becoming general because of its lightness, strength and greater durability. To get the best results steel rope should be made of the best quality of crucible cast steel. Ropes made from low grades of steel are inferior to iron ropes. The use of Bessemer steel for running ropes is not advisable.

Quality is of first importance. Poor rope is costly at any price.

IMPORTANT.

Ropes should be examined frequently and a new rope ordered before the old one is allowed to wear out. Attention to this will ensure safety and prevent serious accidents.

In conclusion we want to say that although we are in the business and have been for a great many years we do not claim to make the best on earth or to be the largest manufacturers in the world, etc., but we claim that our wire ropes of different qualities are not surpassed by any factory in existence. We have testimonials enough in our possession which if published would fill a good sized book. The constantly increasing demand for our wire rope proves that our goods are appreciated by the consumer. We give our personal attention to the detail of the making of the ropes. Every bundle of wire is tested at the works and a record is kept of it for future reference. On inclined planes the grooves of the pulleys or idlers should be lined with wood or rabbit metal.

A. Leschen & Sons. H. H. Harvey Selling Agent.

TO PRESERVE WIRE ROPE

Use H. H. Harvey's Wire Rope Preserver.

Price per 25 lb. can 15 cts. per lb. | 50 lb. can 12½ cts. per lb. | 100 lb. can 11 cts. per lb.

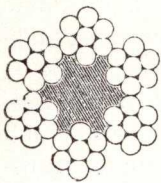
Discount on wire rope preserver—

We are the Selling Agent for

THE CELEBRATED Leschen & Sons Wire Rope.

From the mill or from our store wholesale & retail.

Fig. 215.



Galvanized iron wire rope for Ships' Rigging, Guys for Derricks etc.

Six strands seven wires to a strand coarse laid.

Aproximate diam. in inches.	Circumference in inches.	Estimated weight per 100 feet hemp center.	Circumference of hemp rope of equal strength.	Breaking strain in tons of 2000 lbs.	Price per foot in cents.
2 inches.	6 inches.	6.30 lbs.	12 inches.	50 tons.	....
$1\frac{7}{8}$ "	$5\frac{1}{2}$ "	4.42 "	11 "	43 "	26 cts.
$1\frac{3}{4}$ "	$5\frac{1}{4}$ "	4.08 "	$10\frac{1}{2}$ "	40 "	24 "
$1\frac{5}{8}$ "	5 "	3.67 "	10 "	35 "	22 "
$1\frac{9}{16}$ "	$4\frac{3}{4}$ "	3.50 "	$9\frac{1}{2}$ "	33 "	20 "
$1\frac{1}{2}$ "	$4\frac{1}{2}$ "	3.17 "	9 "	30 "	18 "
$1\frac{3}{8}$ "	$4\frac{1}{4}$ "	2.75 "	$8\frac{1}{2}$ "	26 "	16 "
$1\frac{5}{16}$ "	4 "	2.38 "	8 "	23 "	14 "
$1\frac{1}{4}$ "	$3\frac{3}{4}$ "	2.13 "	$7\frac{1}{2}$ "	20 "	$12\frac{1}{4}$ "
$1\frac{1}{8}$ "	$3\frac{1}{2}$ "	1.79 "	7 "	16 "	$10\frac{1}{2}$ "
$1\frac{1}{16}$ "	$3\frac{1}{4}$ "	1.58 "	$6\frac{1}{2}$ "	14 "	$9\frac{1}{2}$ "
1 "	3 "	1.33 "	6 "	12 "	8 "
$\frac{7}{8}$ "	$2\frac{3}{4}$ "	1.13 "	$5\frac{1}{2}$ "	10 "	$6\frac{3}{4}$ "
$\frac{13}{16}$ "	$2\frac{1}{2}$ "	.92 "	5 "	9 "	$5\frac{3}{4}$ "
$\frac{3}{4}$ "	$2\frac{1}{4}$ "	.75 "	$4\frac{1}{2}$ "	8 "	5 "
$\frac{5}{8}$ "	2 "	.59 "	$4\frac{1}{4}$ "	7 "	$4\frac{1}{4}$ "
$\frac{9}{16}$ "	$1\frac{3}{4}$ "	.42 "	4 "	5 "	$3\frac{1}{2}$ "
$\frac{1}{2}$ "	$1\frac{1}{2}$ "	.34 "	$3\frac{1}{2}$ "	$3\frac{1}{2}$ "	3 "
$\frac{7}{16}$ "	$1\frac{1}{4}$ "	.29 "	3 "	$2\frac{1}{2}$ "	$2\frac{3}{4}$ "
$\frac{3}{8}$ "	$1\frac{1}{8}$ "	.19 "	$2\frac{5}{8}$ "	$2\frac{1}{4}$ "	2 "
$\frac{5}{16}$ "	1 "	.14 $\frac{1}{4}$ "	$2\frac{1}{2}$ "	2 "	$1\frac{1}{2}$ "
$\frac{9}{32}$ "	$\frac{7}{8}$ "	.10 $\frac{1}{2}$ "	2 "	$1\frac{1}{2}$ "	$1\frac{1}{4}$ "
$\frac{1}{4}$ "	$\frac{3}{4}$ "	.08 "	....	$\frac{1}{2}$ "	1 "
$\frac{7}{32}$ "	$\frac{5}{8}$ "	.06 "	....	$\frac{1}{4}$ "	$\frac{7}{8}$ "
$\frac{3}{16}$ "	$\frac{1}{2}$ "	.04 "	....	$\frac{1}{8}$ "	$\frac{3}{4}$ "

The above rope is made with six strands of either 7 or 12 wires, laid around a hemp center, thus forming a rope of forty-two or seventy-two wires respectively.

Galvanized ropes are generally used for ship rigging and derrick guy ropes etc. etc.

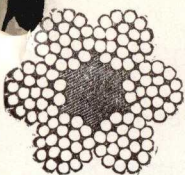
The first cost of galvanized rope is cheaper than hemp rope of equal strength, will last ten times as long, does not stretch or shrink with changes of weather, and is less bulky and weighs less than hemp rope of equal strength. Galvanized rope must not be used as a running rope.

Try our wire rope grease. We make a specialty of splicing wire rope.

Men sent out to set up derricks when desired.

Discounts from fig. _____

Fig. 216



SWEDES IRON HOISTING ROPE.

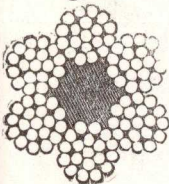
19 Wires to the strand. Hemp center.

FOR ELEVATORS ETC. ETC.

Diameter in inches.	Diam. of hemp rope of equal strength.	Minimum size of drums or sheaves in feet.	Proper working load in tons of 2000 lbs.	Breaking strain in tons of 2000 lbs.	Average weight of rope per foot in pounds.	Price per foot in cents.
$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{16}$	1.00	.10	4
$\frac{5}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{32}$	1.75	.16	$4\frac{1}{4}$
$\frac{3}{8}$	1	1	$\frac{1}{4}$	2.50	.26	$4\frac{1}{2}$
$\frac{7}{16}$	$1\frac{1}{16}$	$1\frac{1}{2}$	$\frac{3}{8}$	3.10	.29	$4\frac{3}{4}$
$\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{3}{4}$	$\frac{1}{2}$	3.50	.35	5
$\frac{9}{16}$	$1\frac{5}{16}$	2	$\frac{5}{16}$	4.30	.44	$6\frac{1}{2}$
$\frac{5}{8}$	$1\frac{7}{16}$	$2\frac{1}{2}$	$\frac{3}{4}$	5.25	.66	$7\frac{1}{2}$
$\frac{3}{4}$	1 $\frac{3}{8}$	3	$\frac{7}{8}$	8.75	.88	10
$\frac{7}{8}$	2	$3\frac{1}{2}$	$2\frac{1}{2}$	11.50	1.20	12
1	$2\frac{1}{4}$	4	3	16.	1.58	16
$1\frac{1}{8}$	$2\frac{3}{8}$	$4\frac{1}{2}$	4	20.	2.00	21
$1\frac{1}{4}$	3	5	$5\frac{1}{2}$	26.	2.50	26
$1\frac{3}{8}$	$3\frac{1}{4}$	6	$6\frac{1}{2}$	33.	3.00	31
$1\frac{1}{2}$	$3\frac{1}{2}$	$6\frac{1}{2}$	8	39.	3.65	37
$1\frac{5}{8}$	4	7	9	44.	4.10	41
$1\frac{3}{4}$	$4\frac{1}{4}$	$7\frac{1}{2}$	11	54.	5.25	52
2	$4\frac{3}{4}$	9	13	65.	6.30	60
$2\frac{1}{4}$	$5\frac{1}{3}$	10	15	74.	8.00	76
$2\frac{1}{2}$	6	12	....	82.	10.50	....

Note.—The rope listed above is made of six strands of 19 wires each, or 114 wires in all, laid around a hemp center. The above makes a very pliable rope. When made with a wire center the weight and price is 10 per cent more. Bessemer and Siemens-Martin steel ropes are same price as iron. We guarantee our ropes to be made from the best brands of Swedish iron and are made on correct principles. Special ropes with any combination wires or style of twist or lay for special purposes made to order on short notice.

Fig. 217



CRUCIBLE CAST STEEL HOISTING ROPE.

19 WIRES TO A STRAND. HEMP CENTER.

Diameter in inches.	Price per foot in cents.	Breaking strain in tons of 2000 pounds.	Diameter of hemp rope of equal strength.	Proper working load in tons of 2000 pounds.	Average weight of rope per foot.	Minimum size of drums or sheaves in feet.
$\frac{3}{32}$	6	$4\frac{1}{2}$	1	$\frac{1}{8}$	.26	1
$\frac{7}{16}$	$6\frac{1}{2}$	6	$1\frac{1}{4}$	$\frac{3}{4}$	.29	$1\frac{1}{4}$
$\frac{1}{2}$	7	$7\frac{1}{2}$	$1\frac{1}{2}$	1	.35	$1\frac{1}{2}$
$\frac{9}{16}$	8	9	1 $\frac{9}{16}$	$1\frac{1}{2}$	.45	$1\frac{3}{4}$
$\frac{5}{8}$	9	$14\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{2}$	.66	$2\frac{1}{2}$
$\frac{3}{4}$	$11\frac{1}{2}$	18	$2\frac{1}{2}$	$3\frac{3}{8}$	.88	3
$\frac{7}{8}$	15	25	$2\frac{3}{4}$	5	1.20	3
1	19	33	3	6	1.60	$4\frac{1}{2}$
$1\frac{1}{8}$	25	42	$3\frac{3}{8}$	8	2.00	4
$1\frac{1}{4}$	30	52	$3\frac{3}{4}$	10	2.50	5
$1\frac{1}{2}$	36	63	4	12	3.00	$5\frac{1}{2}$
$1\frac{3}{8}$	43	77	$4\frac{1}{4}$	15	3.65	$5\frac{3}{4}$
$1\frac{1}{2}$	48	86	$4\frac{3}{4}$	17	4.10	6 $\frac{1}{4}$
$1\frac{5}{8}$	60	106	$5\frac{1}{4}$	21	5.25	$7\frac{1}{2}$
2	72	125	....	25	6.30	$8\frac{1}{2}$
$2\frac{1}{4}$	92	155	....	31	8.00	$9\frac{1}{2}$

Note.—The rope listed above is composed of six strands of 19 wires each, laid around a hemp center. When made with wire center the price and weight of this rope is 10 per cent more. These ropes are made of the best crucible cast steel wire combining in a high degree ductility and strength. Every wire is carefully tested as to torsions and tensile strength and every wire not up to the required standard is rejected. These tests are filed for reference. Steel ropes are largely taking the place of iron ropes, but to be economical only the best grades of crucible cast steel should be used. Our ropes cannot be excelled. Try them and you will endorse our claim. Special ropes of any combination of wire or lay made to order.

Discount on figs.—

Diameter in inches.	Average weight per foot.	Breaking strain in tons of 2000 lbs.	Proper working load in tons of 2000 lbs.	Price per foot in cents.
$\frac{9}{32}$	.125	1.03	$\frac{1}{6}$	2
$\frac{10}{32}$	.15	1.38	$\frac{1}{4}$	2 $\frac{1}{2}$
$\frac{3}{8}$	.20	1.65	$\frac{1}{3}$	3
$\frac{7}{16}$	.23	2.13	$\frac{1}{2}$	3 $\frac{1}{2}$
$\frac{1}{2}$	.32	2.83	$\frac{3}{4}$	4
$\frac{9}{16}$	.41	4.10	1	5
$\frac{5}{8}$	.65	5.80	1 $\frac{1}{2}$	6 $\frac{1}{2}$
$\frac{3}{4}$	.70	7.60	2	7 $\frac{1}{2}$
$\frac{7}{8}$	.88	8.80	2 $\frac{1}{4}$	9
1	1.12	12.30	3	11 $\frac{1}{2}$
1 $\frac{1}{8}$	1.50	16.00	4	15
1 $\frac{1}{4}$	1.82	20.00	5	19
1 $\frac{3}{4}$	2.28	25.00	6 $\frac{1}{4}$	23
1 $\frac{5}{8}$	2.77	30.00	7 $\frac{1}{2}$	28
1 $\frac{7}{8}$	3.37	36.00	9	33

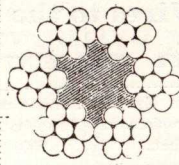


Fig. 218

Swedes Iron

Transmission and Standing Rope.

Seven wires to the strand. Hemp center.

NOTE—These ropes are made of six strands of 7 wires each or 42 in all, laid around a hemp center. When made with a wire center the price and weight is ten per cent more. This rope is much stiffer than the hoisting rope, and is used principally for transmission of power, ferry rope and standing rope. We guarantee this rope to be made of the best brands of Swedes iron.

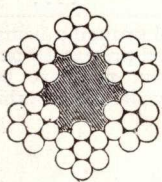


Fig. 219

Crucible Cast Steel.

Transmission & Standing Rope.

7 wires to the strand. Hemp center,

NOTE—The rope listed here is made with six strands of 7 wires each or 42 wires in all laid around a hemp center. When made with wire center the weight and price is ten per cent more. This rope is much stiffer than standard hoisting rope and is more suitable for standing rope, ferry rope, sand lines for deep well drilling and is especially adapted for underground haulage in coal mines. The wires being fewer in number in the rope they are correspondingly coarser and therefore more suitable for rough work in a mine, where the rope is subjected to sudden and often excessive strains. Our steel ropes are made from a special cast steel of a high tensil strain combined with toughness and extra wearing qualities. Each wire is carefully tested to ensure uniformity and durability.

Diameter in inches.	Average weight per foot.	Breaking strain in tons of 2000 lbs.	Proper working load in tons of 2000 lbs.	Price per foot in cents.
$\frac{9}{32}$	.12	2	$\frac{1}{6}$	2 $\frac{1}{2}$
$\frac{5}{16}$	.16	3	$\frac{1}{4}$	2 $\frac{3}{4}$
$\frac{3}{8}$	.20	4	1	3 $\frac{1}{4}$
$\frac{7}{16}$	.28	5	1	4
$\frac{1}{2}$	.35	7	1 $\frac{1}{4}$	4 $\frac{3}{4}$
$\frac{9}{16}$	.44	9	1 $\frac{3}{4}$	5 $\frac{1}{2}$
$\frac{5}{8}$	.65	11 $\frac{1}{2}$	2	7
1 $\frac{1}{16}$	.70	14	3	8 $\frac{1}{2}$
$\frac{3}{4}$	.88	17	3 $\frac{1}{2}$	10
$\frac{7}{8}$	1.20	22	4 $\frac{1}{2}$	14
1	1.50	30	6	18
1 $\frac{1}{8}$	2.00	36	7	23
1 $\frac{1}{4}$	2.44	44	9	28
1 $\frac{3}{8}$	3.00	52	10	33
1 $\frac{1}{2}$	3.65	62	13	39

Cotton Waste, Wire Rope Grease.

Engine & Cylinder Oil, Steel Blocks, Iron Cordage, Marlin, Fuse, etc.

Discount on figs. _____

Fig. 220.



Hoisting Rope. 19 Wires to the Strand. Hemp Center.

Diameter in inches.	Average w'ght per foot.	Breaking strain in tons of 2000 lbs.	Price per foot in cents.
$\frac{3}{8}$	.26	8	10
$\frac{1}{2}$	.35	13	12
$\frac{5}{8}$	.66	20	15 $\frac{1}{2}$
$\frac{3}{4}$	.88	30	20
$\frac{7}{8}$	1.20	40	25
1	1.58	50	32
1 $\frac{1}{8}$	2.00	63	38 $\frac{3}{4}$
1 $\frac{1}{4}$	2.50	76	47
1 $\frac{3}{8}$	3.00	95	56
1 $\frac{1}{2}$	3.65	115	67
1 $\frac{3}{4}$	5.25	160	94
2	6.30	220	1.13
2 $\frac{1}{4}$	8.00	235	1.40

We are the sole makers of this brand of Wire Rope; it bears our Trade Mark. We claim it to be the best Wire Rope in the world. It is made from specially drawn and patent tempered steel, which is solely made for this brand of rope. Each wire is carefully tested and the tests recorded for reference. We guarantee our HERCULES rope as the only rope made combining Strength, Toughness and Pliability and at the same time perfect Elastic qualities. Hence its great lasting and wearing properties. This rope [unlike the Plough Steel Rope of the trade] can be used over the ordinary size of drums and sheaves and no change of plant is necessary. We sell HERCULES rope on its own merits and invite comparison with any brand of rope on Earth.

HERCULES can be depended upon as a Safety Rope in extra hazardous places where rough usage is given and where life may be in danger—points that ought to be well considered in buying wire rope. The use of HERCULES Rope is especially advised in Quarries and Mines, by Contractors, Bridge Builders, Etc.

Our HERCULES Rope is made with a red strand to guard consumers from being imposed upon by those who sell the ordinary Plough Steel or Crucible Steel Rope on the plea of its being the same as HERCULES. A trial order will always command future and continued use and we ask the consideration of all using wire rope for these points. Please note testimonials on next page. We make a specialty of splicing and send men anywhere. A. Leschen & Sons. H. H. Harvey Selling Agent.

Discount on figs.—

Testimonials Received on our Wire Rope.

Lock Eight, Putnam Co., W. Va., June 5th 1891.

Gentlemen:—In answer to yours of recent date, in regard to my experience with your Hercules steel wire rope, I take pleasure in saying that I am using your $\frac{3}{8}$ Hercules Rope on six derricks and two floating hoisters and have now in use the first I bought, which has handled over 14,000 yards of stone and so far there is no wear out to them.

Yours, C. I. McDonald.

From The Harland Brick Co.

Chicago, Ill., Nov. 25, 1890

Gentlemen:—The Hercules wire rope we purchased of you some time ago has given very good satisfaction. It is much better than anything we have heretofore used.

Yours Truly

Harland Brick Co.

L. N. Harland, Pres.

G. F. Guerin, Contractor.

Strawn, Ind., March 22, 1892.

Gentlemen:—Enclosed please find draft for \$37.50, for which send me 250 feet Hercules rope.

The Hercules rope I bought of you last summer is the best rope I have ever used.

From The Ozark Lumber Co.

Winowa, Mo. April 1, 1890

Gentlemen:—Yours of March 29 duly at hand and replying, say that the Hercules wire rope which was shipped us last August is giving first-class satisfaction. You ask us how it compares with the one we used before getting that; there is no comparison.

In some correspondence recently with Mr. M. Garland of Bay City, Mich., we took occasion to highly recommend this rope. Mr. Garland is the inventor of a slab conveyor.

Yours Truly,

The Ozark Lumber Co.

Jos. Fisher, Manager.

Decatur, Ind., July 7, 1890.

Gentlemen:—We have had some of your Hercules brand of wire rope in use over two years and upon examination we find it in such good condition that we have concluded to place the enclosed order for 1,150 feet with you to-day. We have 250 feet of $\frac{3}{4}$ we have used one season on an incline and one season on a steam derrick and it shows no wear to speak of. We do not think there is a broken wire in the rope. Since we put the rope in, some of our neighbors have purchased their third rope and have performed no more labor than we have with ours.

Yours very respectfully,

Decatur Stone & Lime Co. By Nichols, Supt.

Office Warthorst & Co.

Massillon, O., Oct. 16th, 1893.

Gentlemen:—We are well pleased with the service of the Hercules rope. It has the best wearing capacity of any brand of steel rope we have used.

Very truly yours,
Warthorst & Co.

Office Pollard, Goff & Co., Contractors.

Champaign, Ill., Dec. 4th, 1893.

Gentlemen:—Replying to yours of recent date would say that we have used your Hercules wire rope for several years, and find it superior to any wire rope that we can get. and we are now using only the Hercules.

Yours truly,

Pollard, Goff & Co.

Gentlemen:—I have used your Hercules wire rope for several years and find it will out-wear any other make we have tried.

Yours truly,

C. E. Clark,

Per A. C. Whitney.

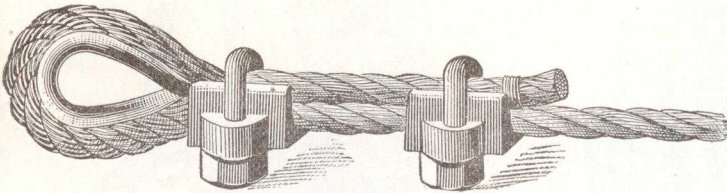
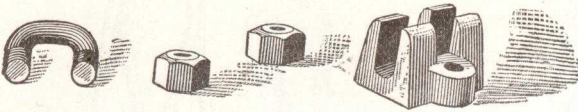
Decatur, Ind. July 7, 1890.

See next page for Manilla Rope also Wire Rope Fasteners, Shackles, etc. etc. etc.
We make a specialty of Wire Rope Splicing and send men anywhere desired.

Crosby Clips or Wire Rope Fastener and Sections.
Fig. 221.

Extra Heavy Thimbles.

Diam. of Rope.	Price Each.
$\frac{1}{4}$	8
$\frac{5}{16}$	8
$\frac{3}{8}$	8
$\frac{7}{16}$	9
$\frac{1}{2}$	9
$\frac{5}{8}$	11
$\frac{3}{4}$	12
$\frac{7}{8}$	12
1	14
$1\frac{1}{8}$	15
$1\frac{1}{4}$	19
$1\frac{3}{8}$	22
$1\frac{1}{2}$	26
$1\frac{5}{8}$	30
$1\frac{3}{4}$	35
2	40



This clip listed below is used in places most severe for a rope fastening. There has never been an instance of their failure to hold when properly adjusted. They are easy on the rope and easily handled. We furnish them in large quantities to dealers all over the country; while all who use them, pronounce them the only reliable made. One clip is sufficient for rope below $\frac{1}{2}$ inch. For rope $\frac{1}{2}$ inch and above it is better to use two—if the work is severe.

Price of Crosby Clips, Fasteners for Wire Rope.

Diameter of rope $\frac{1}{4}$ in.	-	-	-	25 cts. each.	Diameter of rope $\frac{7}{8}$ "	-	-	-	45 cts. each.
" " $\frac{5}{16}$ "	-	-	-	25 "	" " 1 "	-	-	-	50 "
" " $\frac{3}{8}$ "	-	-	-	25 "	" " $1\frac{1}{8}$ "	-	-	-	50 "
" " $\frac{1}{2}$ "	-	-	-	30 "	" " $1\frac{1}{4}$ "	-	-	-	50 "
" " $\frac{5}{8}$ "	-	-	-	35 "	" " $1\frac{3}{8}$ "	-	-	-	55 "
" " $\frac{3}{4}$ "	-	-	-	40 "	" " $1\frac{1}{2}$ "	-	-	-	60 "

Fig. 222 Derrick Wire Fastener.

Best wire fastener in use.

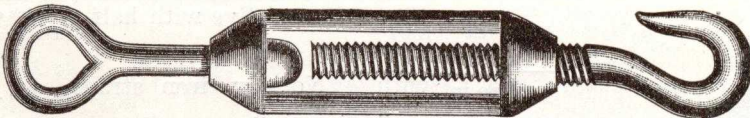
Extra heavy, made from Norway iron.

For $\frac{5}{16}$ inch wire	-	-	-	-	-	-	-	\$1.00 each.
" $\frac{3}{4}$ "	-	-	-	-	-	-	-	1.50 "
" $\frac{7}{8}$ "	-	-	-	-	-	-	-	1.75 "
" 1 "	-	-	-	-	-	-	-	2.00 "

The wire is placed up through the bottom, spread, then hot lead poured in among the wire until the socket is full.



Fig. 223



DERRICK GUY TIGHTENER.

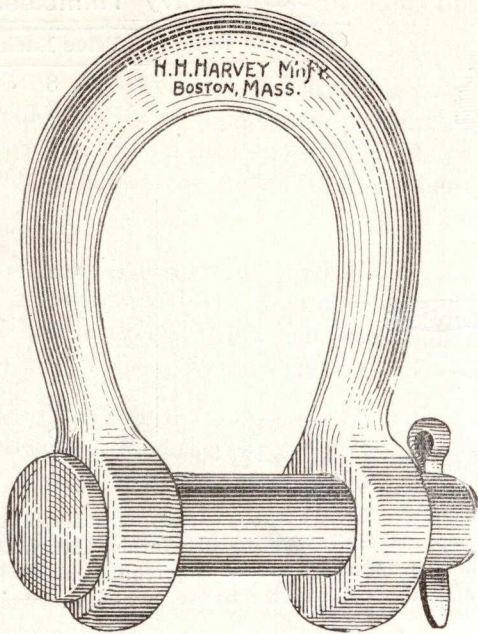
This Wire Tightener is made from the best of material, with either swivel end or Double End Screw, Right and Left hand.

SEE CORDAGE & BLOCKS ON NEXT PAGE.

We have WIRE ROPE PRESERVER GREASE in 25, 50 and 100 lb. packages.

Discount on figs.

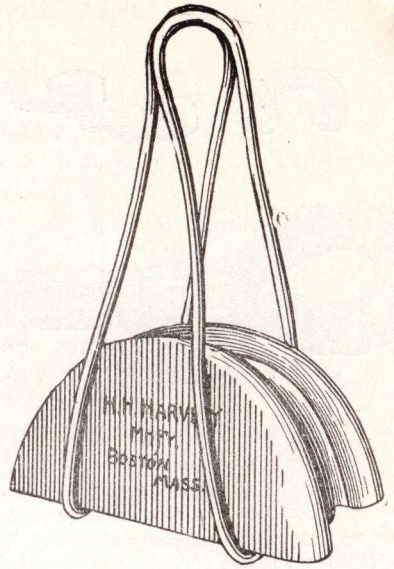
Fig. 224



Wrought Norway Iron Shackle.

These shackles are made solid without welds.
The pins are very large and are steel.

Fig. 225

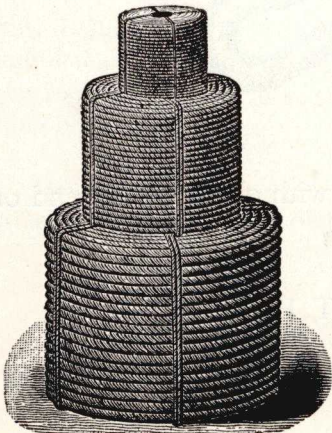


Hardwood Dead Eye with Norway Iron Strap.

The best that can be produced.

Size shackle	Size of steel pin	Length inside	Distance between jaws	Price per lb. in dozen lots	Price per lb. less than doz. lots
$\frac{5}{8}$ inch	$\frac{7}{8}$ inch	$3\frac{1}{4}$ inch.	1 inches	20 cts.	22 cts.
$\frac{3}{4}$ "	1 "	$3\frac{1}{2}$ "	$1\frac{1}{2}$ "	20 "	22 "
$\frac{7}{8}$ "	$1\frac{1}{8}$ "	4 "	2 "	19 "	21 "
1 "	$1\frac{3}{8}$ "	$4\frac{1}{2}$ "	$2\frac{1}{4}$ "	19 "	21 "
$1\frac{1}{8}$ "	$1\frac{1}{2}$ "	5 "	$2\frac{1}{2}$ "	18 "	20 "
$1\frac{1}{4}$ "	$1\frac{5}{8}$ "	$5\frac{1}{2}$ "	$2\frac{3}{4}$ "	18 "	20 "
$1\frac{1}{2}$ "	$1\frac{7}{8}$ "	6 "	3 "	17 "	19 "
2 "	$2\frac{3}{8}$ "	$6\frac{1}{2}$ "	3 "	17 "	19 "

Fig. 226



Size of Half circle	Fig. 225 Dead Eye with half circle	Price each in less than dozen lots	Price each in dozen lots
9 to 10 in	with $\frac{5}{8}$ Norway iron straps	\$1.85	\$1.75
10 to 11 "	" $\frac{3}{4}$ " "	2.10	2.00
11 to 12 "	" $\frac{7}{8}$ " "	2.75	2.60
11 to 14 "	" 1 " "	3.65	3.50

Fig. 226 Best New Bedford Manilla Rope, Navy Okum, Spun Yarn etc., etc. Large orders filled promptly prices quoted on application.

Discount on figs. _____

Fig. 227

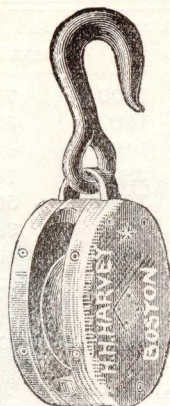


Fig. 228

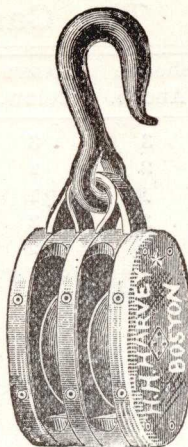
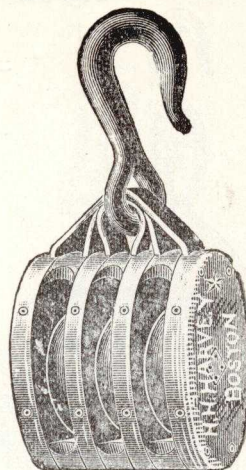


Fig. 229.



Wooden Blocks for
Manilla rope
without beckets.

Fig. 230



Fig. 231

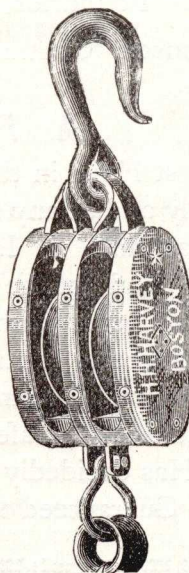
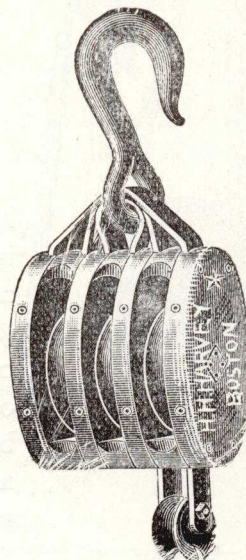


Fig. 232.



Heavy strapped
Wooden Blocks for
Manilla Rope with
beckets.

For Blocks with mortise
wider than above, add 10
per cent. to list for each
extra $\frac{1}{4}$ inch or fraction
thereof.

For list on Quadruple
blocks add the lists for
Single and triple together.
Special ruling for Beckets
in all Iron Strapped
Tackle Blocks.

Beckets may be allowed
in all Single, one-half
Double and one-third
Triple on any orders with-
out charge.

For any additional pro-
portion than above, the
sum of 5 cts. each net, shall
be charged for each
additional becket on
blocks 5 inch and under
and 1 ct. net per inch of
shell for each additional
becket in sizes larger than
5 inch.

(Above means length of shell regardless of number of mortises.)

Dimensions				Common Iron Sheaves.			Patent Roller Bushed.			Self-Lubricating Metaline or Bronze Bushed.			Galvanized Straps extra Net List.		
Size of sheave in inches	For rope diam. inches	Len'th of shell inches	Mortise inches	Single Each	Double Each	Triple Each	Single Each	Double Each	Triple Each	Single Each	Double Each	Triple Each	Single Each	Double Each	Triple Each
$1\frac{3}{4} \times 1 \times \frac{3}{8}$	$\frac{3}{8}$	3	9-16	\$0 70	\$1 30	\$1 75	\$1 10	\$2 00	\$2 90	.....	.....	.....	\$0 04	\$0 06	\$0 10
$2 \times 1 \frac{1}{2} \times \frac{3}{8}$	$\frac{3}{8}$	$3\frac{1}{2}$	9-16	75	1 45	2 00	1 15	2 20	3 15	.....	.....	.....	04	06	10
$2\frac{1}{4} \times 1 \frac{1}{2} \times \frac{3}{8}$	$\frac{3}{8}$	4	11-16	85	1 60	2 15	1 20	2 25	3 25	\$1 50	\$2 90	\$4 15	05	07	11
$3 \times 1 \frac{3}{4} \times \frac{3}{8}$	$\frac{3}{8}$	5	$7\frac{1}{8}$	90	1 75	2 25	1 25	2 35	3 50	1 75	3 35	4 75	06	08	12
$3\frac{1}{2} \times 1 \times \frac{3}{4}$	$\frac{3}{4}$	6	1	1 10	2 00	2 90	1 50	2 85	4 40	2 20	4 00	5 80	10	12	15
$4\frac{1}{2} \times 1 \times \frac{1}{2}$	$\frac{1}{2}$	7	$1\frac{1}{8}$	1 30	2 40	3 50	1 70	3 35	5 00	2 50	4 50	6 70	12	15	18
$4\frac{3}{4} \times 1 \frac{1}{2} \times \frac{1}{2}$	$\frac{1}{2}$	8	$1\frac{1}{4}$	1 65	2 85	4 25	2 25	4 15	6 00	3 25	5 70	8 50	16	21	30
$5\frac{1}{2} \times 1 \frac{1}{2} \times \frac{1}{2}$	$\frac{1}{2}$	9	$1\frac{1}{4}$	1 85	3 40	4 75	2 50	4 70	7 25	3 70	6 75	10 90	22	28	38
$6\frac{1}{2} \times 1 \frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4}$	10	$1\frac{3}{8}$	2 75	4 50	6 25	3 50	6 00	8 50	4 75	8 50	12 50	28	38	50
$7\frac{1}{2} \times 1 \frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4}$	11	$1\frac{3}{8}$	4 45	7 50	10 65	5 30	9 20	13 20	6 70	12 50	18 50	35	45	60
$8 \times 1 \frac{3}{8} \times \frac{3}{4}$	$\frac{3}{4}$	12	$1\frac{1}{2}$	4 45	7 50	10 65	5 30	9 20	13 20	6 70	12 50	18 50	35	45	60
$9 \times 1 \frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4}$	13	$1\frac{1}{2}$	7 00	10 50	15 00	8 15	12 80	18 45	9 75	17 00	25 00	55	75	100
$9\frac{1}{2} \times 1 \frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4}$	13	$1\frac{1}{2}$	7 00	10 50	15 00	8 15	12 80	18 45	9 75	17 00	25 00	55	75	100
$10 \times 1 \frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4}$	15	$1\frac{3}{4}$	8 00	13 00	18 00	9 25	15 50	21 75	11 00	19 50	28 50	75	95	125
$11 \times 1 \frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4}$	16	$1\frac{3}{4}$	10 00	15 00	22 00	11 50	18 00	26 50	.....	.....	.....	85	1 20	1 50

Fig. 233.

The Canton Sure Grip Hoist.

No.	Sheave Above.	Sheave Below.	Size of Rope.	Capacity.	One man can lift.	Diam. of Sheaves.	Price.
25	3	3	$\frac{3}{4}$ to $\frac{7}{8}$	3000	700	5 inch.	\$12.00
27	2	2	$\frac{3}{4}$ to $\frac{7}{8}$	1800	500	5 "	10.00
29	1	1	$\frac{3}{4}$ to $\frac{7}{8}$	1400	400	5 "	8.00
31	3	3	$\frac{5}{8}$ to $\frac{3}{4}$	2800	700	4 "	8.00
33	2	2	$\frac{5}{8}$ to $\frac{3}{4}$	1500	500	4 "	6.00
35	1	1	$\frac{5}{8}$ to $\frac{3}{4}$	1200	350	4 "	5.00
37	2	2	$\frac{1}{2}$	800	400	3 "	4.00
39	1	1	$\frac{1}{2}$	400	200	3 "	3.00

The prices given are the blocks without the rope.

The above hoist can be used to advantage in factories of all kinds, Foundries, Quarries, Stone Sheds, Mills and Warehouses, Contractors and Stone Masons.

A FEW POINTS.

The best Hoist in the world. Can be used perpendicularly, horizontally and at any angle. Saves its cost many times over in a few days use. Is simple, strong, positive and effective in action. Made of the very best material. It elevates, lowers, locks and unlocks, with one rope only at operators will, having both hands free to control the load; no loosing the hold by using one hand to handle extra trip rope. The heavier the load the better it holds.. Safer and more durable than any other hoist made. Has decidedly more points of merit than any other hoist made. Guaranteed to give satisfaction.

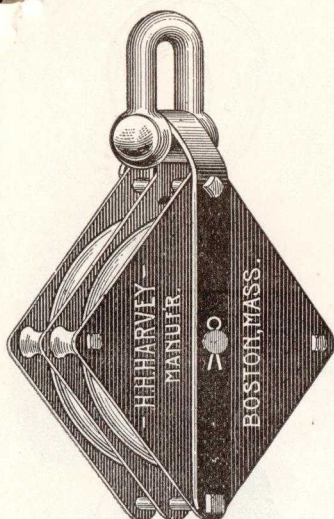
Patented July 9, 1889, and August 14, 1894.

We have the Celebrated New Bedford Rope at Lowest Prices in all the sizes Full Coils or cut to lengths.

Also Spun Yarn, etc. etc. Send for our prices before buying elsewhere.

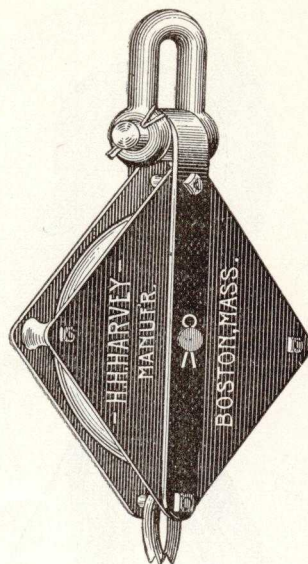
Discount on figs.

Fig. 234.



See Blocks with
Loose and Swivel Hooks
on Next Page.

Fig. 235.



TRY OUR WIRE ROPE GREASE.

Dimensions and prices of wrought steel blocks for wire or manilla rope with shackle.
When made for manilla rope use 2 in. smaller sheave and charge same price if not over $1\frac{1}{2}$ inch diameter of rope.

Regular Size Recommended for 5 Tons.

Size of shaves		Diam. of rope		Thick- ness of shell.	Size of straps	Size of iron used in making shackle	Size of sheave pin.	Size of shackle pin.	Size of becket	Size of iron used in making hook	Iron Sheaves.			Self-lubricating Metaline Bushed.		
for manilla rope	for wire rope	manilla	wire								Single	Doub.	Trip.	Single	Doub.	Trip.
8	10	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{5}{8}$	3-16 or $\frac{1}{4}$	5-16 x $2\frac{1}{2}$	$1\frac{1}{2}$ in.	1 in. dia.	1 in. dia.	$\frac{1}{2}$ in.	$1\frac{1}{2}$ in.	\$14.00	\$20.00	26.00	\$17.00	\$26.00	\$35.00
10	12	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{5}{8}$	3-16 or $\frac{1}{4}$	5-16 x $2\frac{1}{2}$	$1\frac{1}{2}$ "	1 "	1 "	$\frac{1}{2}$ "	$1\frac{1}{2}$ "	16.00	23.00	30.00	19.00	29.00	39.00
12	14	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{5}{8}$	$\frac{1}{4}$ in.	5-16 x $2\frac{1}{2}$	$1\frac{1}{2}$ "	1 "	1 "	$\frac{1}{2}$ "	$1\frac{1}{2}$ "	18.00	25.00	32.00	21.00	31.00	41.00
14	16	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{5}{8}$ to $\frac{3}{4}$	$\frac{1}{4}$ in.	5-16 x $2\frac{1}{2}$	$1\frac{1}{2}$ "	1 "	1 "	$\frac{1}{2}$ "	$1\frac{1}{2}$ "	31.00	40.00	49.00	36.00	50.00	64.00
16	18	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{5}{8}$ to 1	$\frac{1}{4}$ in.	5-16 x $2\frac{1}{2}$	$1\frac{1}{2}$ "	1 "	1 "	$\frac{1}{2}$ "	$1\frac{1}{2}$ "	34.00	45.00	55.50	40.00	56.00	72.00

Heavy Size Recommended For 12 Tons.

8	10	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{5}{8}$	$\frac{1}{4}$ in.	$\frac{3}{8}$ x 3	$1\frac{1}{2}$ in.	$1\frac{1}{8}$ "	$1\frac{1}{2}$ in. dia.	$\frac{3}{8}$ in.	$2\frac{1}{4}$ in.	\$18.75	\$26.65	34.65	\$22.65	\$34.65	\$46.65
10	12	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{5}{8}$	$\frac{1}{4}$ "	$\frac{3}{8}$ x 3	$1\frac{1}{2}$ "	$1\frac{1}{8}$ "	$1\frac{1}{2}$ "	$\frac{3}{8}$ "	$2\frac{1}{4}$ "	21.33	30.66	40.00	25.33	38.66	52.00
12	14	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{5}{8}$	$\frac{1}{4}$ "	$\frac{3}{8}$ x 3	$1\frac{1}{2}$ "	$1\frac{1}{8}$ "	$1\frac{1}{2}$ "	$\frac{3}{8}$ "	$2\frac{1}{4}$ "	24.00	33.33	42.66	28.00	41.33	53.66
14	16	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{5}{8}$ to $\frac{3}{4}$	$\frac{1}{4}$ "	$\frac{3}{8}$ x 3	$1\frac{1}{2}$ "	$1\frac{1}{8}$ "	$1\frac{1}{2}$ "	$\frac{3}{8}$ "	$2\frac{1}{4}$ "	41.33	53.33	65.33	48.00	66.66	85.33
16	18	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{5}{8}$ to 1	$\frac{1}{4}$ "	$\frac{3}{8}$ x 3	$1\frac{1}{2}$ "	$1\frac{1}{8}$ "	$1\frac{1}{2}$ "	$\frac{3}{8}$ "	$2\frac{1}{4}$ "	45.33	60.00	74.00	53.33	74.66	96.00

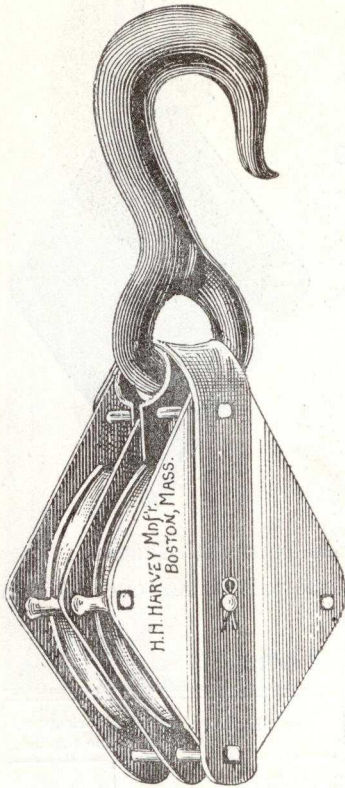
Extra Heavy Size Recommended for 25 Tons.

8	10	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{5}{8}$	$\frac{1}{4}$ in.	$\frac{1}{2}$ x $2\frac{1}{2}$	2 in.	$1\frac{1}{4}$ "	$1\frac{1}{2}$ in. dia.	$\frac{3}{4}$ in.	3 in.	\$21.00	\$30.00	39.00	\$25.50	\$39.00	\$42.50
10	12	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{5}{8}$	$\frac{1}{4}$ "	$\frac{1}{2}$ x $2\frac{1}{2}$	2 "	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	$\frac{3}{4}$ "	3 "	24.00	34.50	45.00	28.50	43.50	48.50
12	14	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{5}{8}$	$\frac{1}{4}$ "	$\frac{1}{2}$ x $2\frac{1}{2}$	2 "	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	$\frac{3}{4}$ "	3 "	27.00	37.50	48.00	31.50	46.50	66.50
14	16	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{5}{8}$ to $\frac{3}{4}$	$\frac{1}{4}$ "	$\frac{1}{2}$ x $2\frac{1}{2}$	2 "	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	$\frac{3}{4}$ "	3 "	46.50	60.00	73.50	54.00	75.00	96.00
16	18	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{5}{8}$ to 1	$\frac{1}{4}$ "	$\frac{1}{2}$ x $2\frac{1}{2}$	2 "	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	$\frac{3}{4}$ "	3 "	51.75	67.50	83.25	60.00	84.00	108.00

The above steel shell blocks are made from the best soft steel plates.
The Pins are all very large and are also steel. The Bolts, Hooks,
Swivels and Straps are all made from imported Norway iron and all done
in the best manner.

Discount on figs.

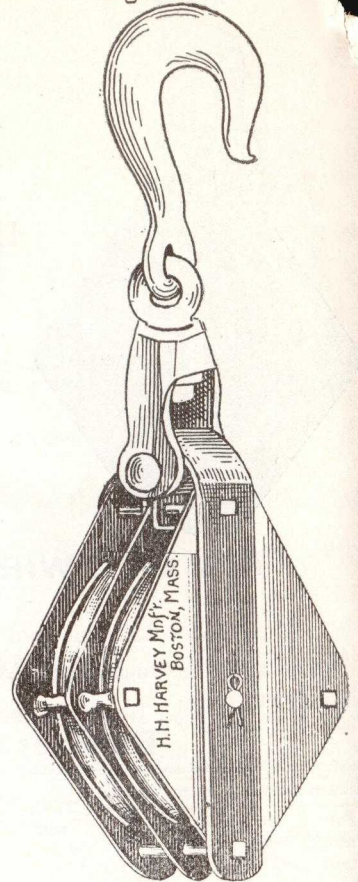
Fig. 236.



For Oval Blocks
see next page.
Each set of blocks
has one with
becket.

Blocks made for
any purpose.

Fig. 237



Wrought Steel Block with Loose Hook for Wire or
Manilla Rope.

Wrought Steel Block with Loose Swivel Hook for Wire
or Manilla Rope.

Regular Size Recommended for 5 Tons.

Price List for Blocks without Swivel.

Diam. of sheaves.		Diam. of rope.		thick- ness of shell.	size of straps.	size of iron used in making shackle	size of sheave pin.	size of shackle pin.	size of becket.	size of iron used in making hook.	Iron Sheaves.			Self-Lubricating Metaline Bushed.		
for manilla rope	for wire rope.	manilla	wire								single	doub.	triple	single	doub.	triple
8 in.	10 in.	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	3-16 or $\frac{1}{4}$	5-16 x $2\frac{1}{2}$	$1\frac{1}{4}$ in.	1 in.	1 in.	$\frac{1}{2}$ in.	\$ 15.50	\$ 21.50	\$ 27.50	\$ 18.50	\$ 27.50	\$ 36.50
10 "	12 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	3-16 or $\frac{1}{4}$	5-16 x $2\frac{1}{2}$	$1\frac{1}{4}$ "	1 "	1 "	$\frac{1}{2}$ "	17.50	24.50	31.50	20.50	30.50	40.50
12 "	14 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	5-16 x $2\frac{1}{2}$	$1\frac{1}{4}$ "	1 "	1 "	$\frac{1}{2}$ "	19.50	26.50	33.50	22.50	32.50	42.50
14 "	16 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	5-16 x $2\frac{1}{2}$	$1\frac{1}{4}$ "	1 "	1 "	$\frac{1}{2}$ "	32.50	41.50	50.50	37.50	51.50	65.50
16 "	18 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to 1	$\frac{1}{4}$	$\frac{1}{4}$	5-16 x $2\frac{1}{2}$	$1\frac{1}{4}$ "	1 "	1 "	$\frac{1}{2}$ "	36.00	46.50	57.00	41.50	57.50	73.50

Advance above price list for swivel blocks \$1.50 each.

Heavy Size Recommended for 12 Tons.

8 in.	10 in.	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$ x 3 in	$1\frac{1}{2}$ in.	$1\frac{1}{4}$ in.	$1\frac{1}{4}$ in.	$\frac{3}{4}$ in.	$2\frac{1}{4}$ in.	21.25	29.15	37.15	25.15	37.15	49.15
10 "	12 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$ x 3 "	$1\frac{1}{2}$ "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$\frac{3}{4}$ "	$2\frac{1}{4}$ "	23.83	33.16	42.50	27.88	41.16	54.50
12 "	14 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$ x 3 "	$1\frac{1}{2}$ "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$\frac{3}{4}$ "	$2\frac{1}{4}$ "	23.50	35.88	45.16	30.50	43.88	56.16
14 "	16 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$ x 3 "	$1\frac{1}{2}$ "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$\frac{3}{4}$ "	$2\frac{1}{4}$ "	43.83	55.83	67.83	50.50	69.16	87.85
16 "	18 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to 1	$\frac{1}{4}$	$\frac{1}{4}$ x 3 "	$1\frac{1}{2}$ "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$\frac{3}{4}$ "	$2\frac{1}{4}$ "	47.88	62.60	77.50	55.88	77.16	98.59

Advance above price list for swivel blocks \$2.50 each.

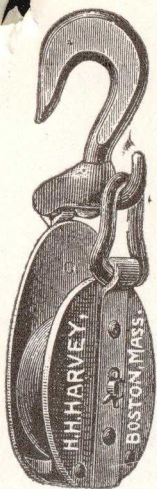
Extra Heavy Size Recommended for 25 Tons.

8 in.	10 in.	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$ x $3\frac{1}{2}$ in	2 in.	$1\frac{1}{4}$ in.	$1\frac{1}{4}$ in.	$\frac{3}{4}$ in.	3 in.	25.00	34.00	43.00	29.50	43.00	46.50
10 "	12 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$ x $3\frac{1}{2}$ "	2 "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$\frac{3}{4}$ "	3 "	28.00	38.50	49.00	32.50	47.50	52.50
12 "	14 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$ x $3\frac{1}{2}$ "	2 "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$\frac{3}{4}$ "	3 "	31.00	41.50	52.00	35.50	50.50	70.50
14 "	16 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$ x $3\frac{1}{2}$ "	2 "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$\frac{3}{4}$ "	3 "	50.50	64.00	77.50	58.00	79.00	96.00
16 "	18 "	$\frac{3}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to 1	$\frac{1}{4}$	$\frac{1}{4}$ x $3\frac{1}{2}$ "	2 "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$\frac{3}{4}$ "	3 "	55.75	71.50	87.25	64.00	88.00	112.00

Advance above price list for swivel blocks \$4.00 each.

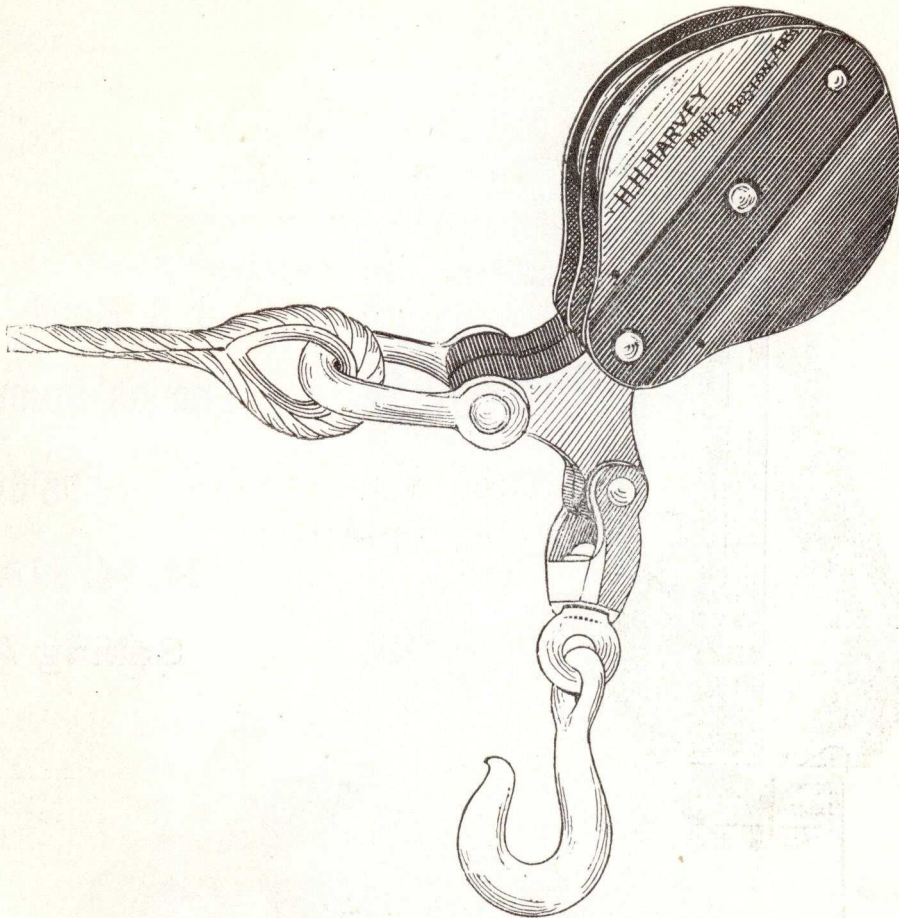
The above steel blocks are made from the best soft steel plates. The pins are made very large and are also steel. The bolts hooks, swivels and straps are made from imported Norway iron. The workmanship is of the best all edges ground smooth

Fig. 238.



Steel shell
snatch block
with Norway
iron strap and
hook.

Fig. 239.



Wrought steel Derrick Block for Wire or Manilla rope showing the
Inner and Outer Lift used in stone yards.

List prices for Oval steel shell snatch blocks.

Fig. 238

Recommended for 5 Tons.

Diameter of Sheaves.		Diameter of Rope.		Size of pin.	Thickness of shell.	Size of straps.	Size of iron used in making hook.	Price iron sheaves	Price self-lubricating metaline bushed.
for manilla rope.	for wire rope.	Manilla.	Wire.						
8 in.	10 in.	$\frac{3}{4}$ to $1\frac{1}{2}$ in.	$\frac{1}{2}$ to $\frac{5}{8}$ in.	1 in.	7-16	$\frac{1}{2}$ x $2\frac{1}{2}$ in.	$1\frac{1}{2}$ in.	\$26.00	\$29.00
10 "	12 "	$\frac{3}{4}$ to $1\frac{1}{2}$ "	$\frac{1}{2}$ to " "	1 "	" "	$\frac{1}{2}$ x $2\frac{1}{2}$ "	$1\frac{1}{2}$ "	30.00	33.00
12 "	14 "	$\frac{3}{4}$ to $1\frac{1}{2}$ "	$\frac{1}{2}$ to $\frac{3}{4}$ "	1 "	9-16	$\frac{1}{2}$ x $2\frac{1}{2}$ "	$1\frac{1}{2}$ "	32.00	35.00
14 "	16 "	$\frac{3}{4}$ to $1\frac{1}{2}$ "	$\frac{1}{2}$ to " "	1 "	" "	$\frac{1}{2}$ x $2\frac{1}{2}$ "	$1\frac{1}{2}$ "	49.00	53.00
Recommended for 12 Tons.									
8 in.	10 in.	$\frac{3}{4}$ to $1\frac{1}{2}$ in.	$\frac{1}{2}$ to $\frac{5}{8}$ in.	$1\frac{1}{8}$ in.	9-16	$\frac{5}{8}$ x 3 "	$2\frac{1}{4}$ in.	\$28.67	\$32.67
10 "	12 "	$\frac{3}{4}$ to $1\frac{1}{2}$ "	$\frac{1}{2}$ to " "	$1\frac{1}{8}$ "	" "	$\frac{5}{8}$ x 3 "	$2\frac{1}{4}$ "	40.00	44.00
12 "	14 "	$\frac{3}{4}$ to $1\frac{1}{2}$ "	$\frac{1}{2}$ to " "	$1\frac{1}{8}$ "	11-16	$\frac{5}{8}$ x 3 "	$2\frac{1}{4}$ "	42.67	46.67
14 "	16 "	$\frac{3}{4}$ to $1\frac{1}{2}$ "	$\frac{1}{2}$ to " "	$1\frac{1}{8}$ "	" "	$\frac{5}{8}$ x 3 "	$2\frac{1}{4}$ "	65.34	69.34

Fig. 239 or Oval wrought steel block with shackle, loose hook or swivel and without the inner and outer lift we furnish at the same price as figs. 236 & 237 or square blocks shown on page 96. The inner and outer lift including single line as shown above we furnish at the following extra prices without the blocks.

For 5 ton working strain blocks add to price of figs. 236 & 237 \$12.00 extra.

" 12 " " " " " " " " 15.00
" 25 " " " " " " " " 20.00

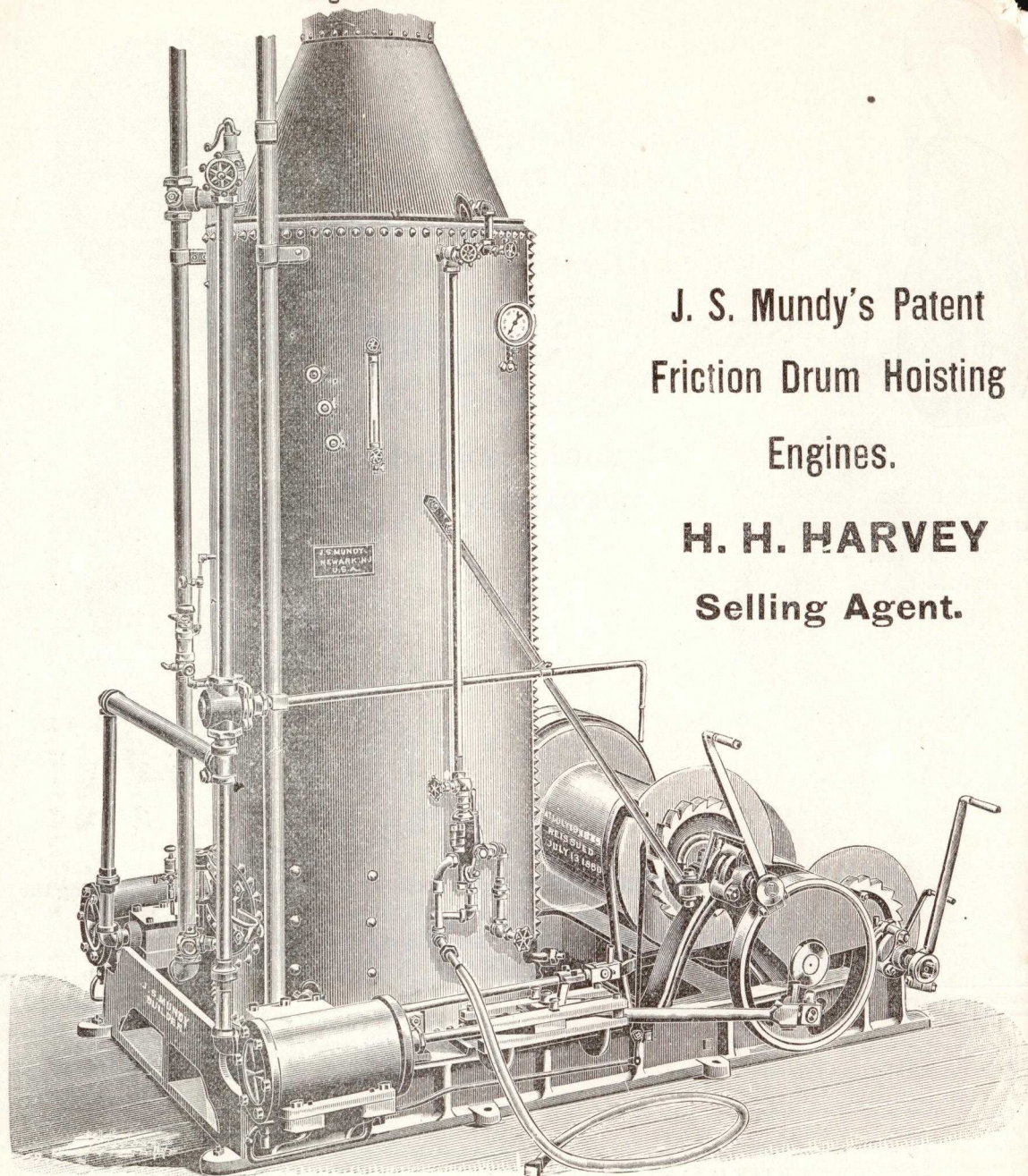
The above inner and outer lift we make from best imported Norway iron. We make a specialty on Derrick outfits, Wire & Manilla rope, etc., etc., and everything connected with the Derrick and Granite business.

Discount on figs

Fig. 240.

J. S. Mundy's Patent
Friction Drum Hoisting
Engines.

H. H. HARVEY
Selling Agent.



These Engines are made extra heavy, the Boilers are double riveted steel, the tubes are submerged, the fixtures are of the best material and workmanship and furnished all complete.

All engines and boilers are steamed up before leaving the works and are shipped in perfect order. One grade only is manufactured and they are guaranteed to be equal to any in the world. Give them a trial, See next page for prices.

The Celebrated J. S. Mundy's Hoisting Engines for Bridge Erecting, Pile Driving, Logging, Mining, Contractors and Quarry Works.

H. H. HARVEY,

Selling Agent, 218 Congress St. Boston Mass.,

MANUFACTURER OF

Quarry, Railway and Contractors' Outfits.

Single Cylinder Hoisting Engines with Boiler, Single and Double Drums and Capstan.

Horse Power.	CYLINDER		Diameter of Drum in inches	Length of Drum between flanges	Diameter of Boiler in inches	Height in feet and inches	No. of tubes	Length of tubes in inches	Size of tubes in inches	Estimated wt. of Engine and Boiler with single Drum lbs	Estimated wt. of Engine and Boiler with double drum lbs	Will hoist with single line in lbs 80 lbs. steam	Weight of pile driving hammer for quick work	Price with 1 drum & 1 winch	Price with 2 drum & 2 winch	Price of low iron wheels net	Price of Pioneer Trucks net
	Bore in inches	Stroke in inches															
4	4 1/2	8	9	17 in.	23	5 ft.	40	42	2	3600	4275	600 to 1000	700	\$575	\$875	\$35	\$100
5	5	10	9	17 "	23	5 " 8 in.	40	42	2	3800	4475	700 to 1400	1000	600	700	40	105
6	5 1/2	10	9	17 "	23	5 " 8 "	40	42	2	3900	4575	800 to 1500	1100	650	750	40	105
7	6	10	10	20 "	24	6 " 8 "	55	52	2	4500	5375	1000 to 2000	1600	750	900	45	125
8	6 1/2	12	12	20 "	32	6 " 8 "	60	53	2	5000	5875	1200 to 2200	1700	775	925	50	135
10	7	10	12 to 14	22 "	34	7 "	60	56	2	5400	6325	1400 to 2400	1800	800	950	55	140
11	7 1/2	12	12 to 14	22 "	34	7 "	60	56	2	5500	6425	1600 to 2600	2000	825	975	60	150
12	7 3/4	12	12 to 16	24 "	36	7 "	65	58	2	5800	6825	2000 to 3000	2200	950	1100	65	150
15	8	12	12 to 16	24 "	38	7 " 6 "	75	62	2	7000	8050	2000 to 4000	2500	975	1125	65	150
17 1/2	8 1/2	13	12 to 16	26 "	40	7 " 6 "	85	62	2	7700	8775	2300 to 4500	2800	1075	1225	70	160
20	9	13	12 to 16	24 "	42	8 "	85	68	2	8000	9475	2400 to 5000	3000	1300	1500	75	175
25	9	16	12 to 18	28 "	42	8 " 6 "	100	74	2	8800	10375	2500 to 5000	3000	1325	1525	70	160
30	10	16	12 to 24	28 "	44	8 " 6 "	120	74	2	9500	11475	3000 to 6000	4000	1400	1550	75	175
35	11	18	12 to 30	28 "	46	8 " 6 "	120	74	2	10000	12100	4000 to 8000	5000	1500	1775	85	200
40	12	20	12 to 33	30 "	48	8 " 6 "	140	74	2	12000	14500	5000 to 10000	6000	1800	2100	100	250
60	14	24	12 to 38	34 "	52	9 "	160	80	2	16000	19000	8000 to 16000	8000	2200	2600		

Double Cylinder Hoisting Engines with Boiler, Single and Double Drums and Winches.

8	4 1/2	8	10	18 in.	32	6 ft. 8 in.	55	50	2	4700	5375	1200 to 2000	1200	\$875	\$1000	\$45	\$125
10	5	10	12	20 "	34	7 "	60	56	2	5100	5775	1400 to 2800	2000	900	1025	45	125
12	5 1/2	10	12	20 "	34	7 "	60	56	2	5100	5775	1400 to 3000	2100	950	1100	45	125
14	6 1/2	10	12 to 14	22 "	33	7 "	65	56	2	4000	6875	1800 to 3500	2400	1000	1200	50	135
16	6 3/4	12	12 to 14	24 "	33	7 " 6 "	75	62	2	8000	8875	2000 to 4000	2600	1150	1300	55	150
18	7	12	12 to 16	28 "	40	7 " 6 "	85	62	2	8175	9100	2500 to 5000	2800	1250	1350	55	150
22	7 1/2	12	12 to 16	30 "	42	8 "	85	68	2	8500	9425	3000 to 6000	3000	1300	1400	60	160
24	7 3/4	12	12 to 16	30 "	42	8 "	85	68	2	9000	10025	4000 to 7000	3200	1350	1450	65	160
30	8	12	12 to 18	30 "	44	8 " 6 "	100	74	2	9300	10350	5000 to 8000	3000	1425	1500	70	175
35	8 1/2	13	12 to 18	30 "	44	8 " 6 "	120	74	2	10000	11075	6000 to 9000	4000	1600	1800	75	175
40	9	13	12 to 18	30 "	44	8 " 6 "	140	74	2	10750	12225	7000 to 11000	5000	1800	2000	85	200
50	9	16	12 to 20	33 "	48	8 " 6 "	160	80	2	12000	13575	8000 to 12000	5000	2000	2250	85	200
60	10	16	12 to 30	33 "	52	9 "	185	80	2	13900	15575	10000 to 14000	6000	2200	2550	100	225
70	11	18	12 to 32	33 "	54	9 "	200	92	2	15500	17670	12000 to 18000	8000	2600	3000	125	250
80	12	20	12 to 34	43 "	60	10 "	200	92	2	24000	30000	20000 to 30000	10000	3000	3500	150	300
120	14	24	12 to 40	46 "	78	14 "	220	120	2 1/2	37000	43000	22000 to 50000	16000	4600	5600		

The cut on the previous page represents my Improved Double Cylinder and Double Patent Friction Drum Engine, for pile driving and quarries. When pile driving one drum is used for running the hammer and the other for hoisting the pile or timber. I guarantee to strike with a 6 1/2 in. x 12 in. or 7 1/4 in. x 10 in. cylinder engine and a 2500 lb. hammer, from 15 to 25 blows per minute, running the hammer from 12 to 25 feet high every blow and with a double 7 in. x 12 in. cylinder engine and 3000 lb. hammer the same number of blows. Any quantity of references given from dock and bridge builders throughout the United States, as to the qualities of this machine. *An actual saving of one-third in time and money.* Every Engine has winch heads on the end of the drum shafts for hauling the machine, piles, timber etc. When used in quarries for operating a boom derrick, one drum is used for raising the stone and the other for swinging or lowering of the boom. The ratchet on the end of the drum is a device for holding the weight with one drum while the boom is being lowered or swung to its desired position. This engine has been adopted by the United States Government Engineers and some of the largest contractors and iron bridge builders in the United States and many Railroad companies as the best, standard Hoisting Engine made.

Cotton Waste, Engine & Cylinder Oils, Tube Brushes, etc., etc.

Discount on figs

Quarry & Contractor's chains with hooks & rings made from Norway or B. B. iron. also Refined & Bar Iron and Steel. Full Assortment.

WEIGHT AND STRENGTH OF CHAIN.

Diameter of Iron.	Average Weight per foot.	Breaking Strain.	Diameter of Iron.	Average Weight per foot.	Breaking Strain.
$\frac{3}{16}$ inch.	.42 lbs.	1,731 lbs.	1 inches.	10. lbs.	49,280 lbs.
$\frac{1}{4}$ "	.91 "	3,069 "	$1\frac{1}{16}$ "	11.3 "	52,790 "
$\frac{5}{16}$ "	1.22 "	4,794 "	$1\frac{1}{8}$ "	12.5 "	59,226 "
$\frac{3}{8}$ "	1.5 "	6,922 "	$1\frac{3}{16}$ "	14. "	65,960 "
$\frac{7}{16}$ "	2. "	9,408 "	$1\frac{1}{2}$ "	15.5 "	73,114 "
$\frac{1}{2}$ "	2.5 "	12,320 "	$1\frac{3}{8}$ "	18.5 "	88,301 "
$\frac{9}{16}$ "	3.2 "	15,590 "	$1\frac{1}{2}$ "	22. "	105,280 "
$\frac{5}{8}$ "	4.1 "	19,219 "	$1\frac{5}{8}$ "	25.5 "	123,514 "
$\frac{11}{16}$ "	5. "	23,274 "	$1\frac{3}{4}$ "	29.5 "	143,293 "
$\frac{3}{4}$ "	5.8 "	27,687 "	$1\frac{7}{8}$ "	33.5 "	164,505 "
$\frac{13}{16}$ "	6.6 "	32,307 "	2 "	38. "	187,152 "
$\frac{7}{8}$ "	7.7 "	37,632 "	$2\frac{1}{4}$ "	48.5 "	224,448 "
$1\frac{1}{16}$ "	8.9 "	43,277 "	$2\frac{1}{2}$ "	60. "	277,088 "

WEIGHTS OF FLAT IRON PER LINEAL FOOT.

Size.	Weight of 1 ft.	Size.	Weight of 1 ft.	Size.	Weight of 1 ft.	Size.	Weight of 1 ft.	Size.	Weight of 1 ft.	Size.	Weight of 1 ft.
in.	lbs.	in.	lbs.	in.	lbs.	in.	lbs.	in.	lbs.	in.	lbs.
$1 \times \frac{1}{4}$	.83	$2 \times \frac{3}{8}$	2.50	$1\frac{1}{4} \times \frac{5}{8}$	2.60	$4 \times \frac{3}{4}$	10.00	$4\frac{1}{2} \times \frac{7}{8}$	13.12	$5\frac{1}{2} \times 1$	17.49
$1\frac{1}{8} \times \frac{1}{4}$	.93	$2\frac{1}{4} \times \frac{3}{8}$	2.81	$1\frac{3}{8} \times \frac{5}{8}$	2.86	$4\frac{1}{4} \times \frac{3}{4}$	10.62	$4\frac{3}{4} \times \frac{7}{8}$	13.85	$5\frac{3}{4} \times 1$	18.32
$1\frac{1}{4} \times \frac{1}{4}$	1.04	$2\frac{1}{2} \times \frac{3}{8}$	3.12	$1\frac{1}{2} \times \frac{5}{8}$	3.12	$4\frac{1}{2} \times \frac{3}{4}$	11.25	$5 \times \frac{7}{8}$	14.58	$5\frac{3}{4} \times 1$	19.16
$1\frac{3}{8} \times \frac{1}{4}$	1.14	$2\frac{3}{4} \times \frac{3}{8}$	3.43	$1\frac{3}{4} \times \frac{5}{8}$	3.64	$4\frac{3}{4} \times \frac{3}{4}$	11.87	$5\frac{1}{4} \times \frac{7}{8}$	15.31	6×1	20.00
$1\frac{1}{2} \times \frac{1}{4}$	1.25	$3 \times \frac{3}{8}$	3.75	$2 \times \frac{5}{8}$	4.16	$5 \times \frac{3}{4}$	12.50	$5\frac{1}{2} \times \frac{7}{8}$	16.04	$6\frac{1}{4} \times 1$	20.83
$1\frac{3}{4} \times \frac{1}{4}$	1.45	$3\frac{1}{2} \times \frac{3}{8}$	4.37	$2\frac{1}{4} \times \frac{5}{8}$	4.68	$5\frac{1}{4} \times \frac{3}{4}$	13.12	$5\frac{3}{4} \times \frac{7}{8}$	16.77	$6\frac{3}{4} \times 1$	21.66
$2 \times \frac{1}{4}$	1.66	$4 \times \frac{3}{8}$	5.00	$2\frac{1}{2} \times \frac{5}{8}$	5.20	$5\frac{1}{2} \times \frac{3}{4}$	13.75	$6 \times \frac{7}{8}$	17.50	$2 \times 1\frac{1}{4}$	8.32
$2\frac{1}{4} \times \frac{1}{4}$	1.87	$5 \times \frac{3}{8}$	6.25	$2\frac{3}{4} \times \frac{5}{8}$	5.72	$5\frac{3}{4} \times \frac{3}{4}$	14.37	$6\frac{1}{4} \times \frac{7}{8}$	18.22	$2\frac{1}{4} \times 1\frac{1}{4}$	9.37
$2\frac{1}{2} \times \frac{1}{4}$	2.08	$6 \times \frac{3}{8}$	7.50	$3 \times \frac{5}{8}$	6.25	$6 \times \frac{3}{4}$	15.00	$1\frac{1}{8} \times 1$	3.75	$2\frac{1}{2} \times 1\frac{1}{4}$	10.41
$2\frac{3}{4} \times \frac{1}{4}$	2.29	$1 \times \frac{1}{2}$	1.66	$3\frac{1}{2} \times \frac{5}{8}$	7.29	$6\frac{1}{2} \times \frac{3}{4}$	15.62	$1\frac{1}{4} \times 1$	4.16	$2\frac{3}{4} \times 1\frac{1}{4}$	11.45
$3 \times \frac{1}{4}$	2.50	$1\frac{1}{8} \times \frac{1}{2}$	1.87	$4 \times \frac{5}{8}$	8.32	$1 \times \frac{1}{2}$	2.91	$1\frac{3}{8} \times 1$	4.58	$3 \times 1\frac{1}{4}$	12.50
$3\frac{1}{4} \times \frac{1}{4}$	2.70	$1\frac{1}{4} \times \frac{1}{2}$	2.08	$5 \times \frac{5}{8}$	10.40	$1\frac{1}{8} \times \frac{1}{2}$	3.28	$1\frac{1}{2} \times 1$	5.00	$3\frac{1}{2} \times 1\frac{1}{4}$	13.54
$3\frac{1}{2} \times \frac{1}{4}$	2.91	$1\frac{3}{8} \times \frac{1}{2}$	2.29	$6 \times \frac{5}{8}$	12.50	$1\frac{1}{4} \times \frac{1}{2}$	3.64	$1\frac{3}{4} \times 1$	5.83	$4 \times 1\frac{1}{4}$	16.66
$3\frac{3}{4} \times \frac{1}{4}$	3.11	$1\frac{1}{2} \times \frac{1}{2}$	2.50	$1 \times \frac{3}{4}$	2.50	$1\frac{3}{8} \times \frac{1}{2}$	4.01	2×1	6.66	$4\frac{1}{2} \times 1\frac{1}{4}$	18.75
$4 \times \frac{1}{4}$	3.33	$1\frac{3}{4} \times \frac{1}{2}$	2.91	$1\frac{1}{8} \times \frac{3}{4}$	2.81	$1\frac{1}{2} \times \frac{1}{2}$	4.37	$2\frac{1}{4} \times 1$	7.50	$5 \times 1\frac{1}{4}$	20.82
$4\frac{1}{4} \times \frac{1}{4}$	3.53	$2 \times \frac{1}{2}$	3.33	$1\frac{3}{8} \times \frac{3}{4}$	3.12	$1\frac{3}{4} \times \frac{1}{2}$	5.10	$2\frac{1}{2} \times 1$	8.33	$5\frac{1}{2} \times 1\frac{1}{4}$	22.90
$4\frac{1}{2} \times \frac{1}{4}$	3.74	$2\frac{1}{4} \times \frac{1}{2}$	3.75	$1\frac{1}{2} \times \frac{3}{4}$	3.40	$2 \times \frac{1}{2}$	5.83	$2\frac{3}{4} \times 1$	9.16	$6 \times 1\frac{1}{4}$	25.00
$4\frac{3}{4} \times \frac{1}{4}$	3.95	$2\frac{1}{2} \times \frac{1}{2}$	4.16	$1\frac{3}{4} \times \frac{3}{4}$	3.75	$2\frac{1}{4} \times \frac{1}{2}$	6.56	3×1	10.00	$2 \times 1\frac{1}{2}$	10.40
$5 \times \frac{1}{4}$	4.16	$2\frac{3}{4} \times \frac{1}{2}$	4.58	$1\frac{1}{4} \times 1$	4.37	$2\frac{1}{2} \times \frac{1}{2}$	7.29	$3\frac{1}{4} \times 1$	10.83	$2\frac{1}{4} \times 1\frac{1}{2}$	11.96
$6 \times \frac{1}{4}$	5.00	$3 \times \frac{1}{2}$	5.00	$2 \times \frac{3}{4}$	5.00	$2\frac{3}{4} \times \frac{1}{2}$	8.02	$3\frac{1}{2} \times 1$	11.66	$2\frac{1}{2} \times 1\frac{1}{2}$	13.41
$1 \times \frac{1}{2}$	1.25	$3\frac{1}{2} \times \frac{1}{2}$	5.83	$2\frac{1}{4} \times \frac{3}{4}$	5.62	$3 \times \frac{1}{2}$	8.75	$3\frac{3}{4} \times 1$	12.50	$2\frac{3}{4} \times 1\frac{1}{2}$	14.51
$1\frac{1}{8} \times \frac{1}{2}$	1.40	$4 \times \frac{1}{2}$	6.66	$2\frac{3}{4} \times \frac{3}{4}$	6.25	$3\frac{1}{4} \times \frac{1}{2}$	9.47	4×1	13.33	$3 \times 1\frac{1}{2}$	15.62
$1\frac{1}{4} \times \frac{1}{2}$	1.56	$5 \times \frac{1}{2}$	8.32	$2\frac{1}{2} \times 1$	6.87	$3\frac{3}{4} \times \frac{1}{2}$	10.20	$4\frac{1}{4} \times 1$	14.16	$3\frac{1}{2} \times 1\frac{1}{2}$	16.92
$1\frac{3}{8} \times \frac{1}{2}$	1.71	$6 \times \frac{1}{2}$	10.00	$3 \times \frac{3}{4}$	7.50	$4 \times \frac{1}{2}$	10.93	$4\frac{1}{2} \times 1$	15.00	$4 \times 1\frac{1}{2}$	20.82
$1\frac{1}{2} \times \frac{1}{2}$	1.87	1×1	2.08	$3\frac{1}{4} \times \frac{3}{4}$	8.12	$4 \times \frac{1}{2}$	11.66	$4\frac{3}{4} \times 1$	15.83	$5 \times 1\frac{1}{2}$	26.02
$1\frac{3}{4} \times \frac{1}{2}$	2.18	$1\frac{1}{8} \times 1$	2.34	$3\frac{3}{4} \times \frac{3}{4}$	8.75	$4\frac{1}{4} \times \frac{1}{2}$	12.39	5×1	16.66	$6 \times 1\frac{1}{2}$	31.25

Rule—multiply the thickness in sixteenths of an inch by $2\frac{1}{2}$, the result is the weight per square foot in lbs.

SEND FOR OUR PRICES BEFORE BUYING.

WEIGHTS OF IRON PER LINEAL FOOT.

SQUARE IRON.

Size.	Weight.	Size.	Weight.	Size.	Weight.
$\frac{1}{4}$ in.	.211 lbs.	$\frac{1}{8}$ in.	2.971 lbs.	$2\frac{1}{2}$ in.	21.120 lbs.
$\frac{5}{16}$ "	.330 "	1 "	3.380 "	$2\frac{3}{4}$ "	25.560 "
$\frac{3}{8}$ "	.475 "	$1\frac{1}{8}$ "	4.278 "	3 "	30.416 "
$\frac{7}{16}$ "	.647 "	$1\frac{1}{4}$ "	5.280 "	$3\frac{1}{4}$ "	35.704 "
$\frac{1}{2}$ "	.845 "	$1\frac{3}{8}$ "	6.390 "	$3\frac{1}{2}$ "	41.408 "
$\frac{9}{16}$ "	1.069 "	$1\frac{1}{2}$ "	7.604 "	$3\frac{3}{4}$ "	47.534 "
$\frac{5}{8}$ "	1.320 "	$1\frac{3}{4}$ "	8.926 "	4 "	54.084 "
$\frac{11}{16}$ "	1.597 "	$1\frac{7}{8}$ "	10.352 "	$4\frac{1}{4}$ "	61.055 "
$\frac{3}{4}$ "	1.901 "	1 $\frac{7}{8}$ "	11.883 "	$4\frac{1}{2}$ "	68.448 "
$1\frac{1}{16}$ "	2.231 "	2 "	13.520 "	$4\frac{3}{4}$ "	76.264 "
$1\frac{1}{8}$ "	2.588 "	$2\frac{1}{4}$ "	17.112 "	5 "	84.480 "

ROUND IRON.

Diameter.	Weight.	Diameter.	Weight.	Diameter.	Weight.	Diameter.	Weight.
$\frac{1}{4}$ in.	.163 lbs.	$1\frac{1}{2}$ in.	5.89 lbs.	$2\frac{3}{4}$ in.	19.79 lbs.	4 in.	41.88 lbs.
$\frac{3}{8}$ "	.368 "	$1\frac{3}{4}$ "	6.91 "	$2\frac{7}{8}$ "	21.63 "	$4\frac{1}{8}$ "	44.54 "
$\frac{1}{2}$ "	.654 "	$1\frac{1}{2}$ "	8.01 "	3 "	23.56 "	$4\frac{1}{4}$ "	47.28 "
$\frac{5}{8}$ "	1.02 "	$1\frac{1}{4}$ "	9.20 "	$3\frac{1}{8}$ "	25.56 "	$4\frac{3}{8}$ "	50.11 "
$\frac{3}{4}$ "	1.47 "	2 "	10.47 "	$3\frac{1}{4}$ "	27.65 "	$4\frac{1}{2}$ "	53.01 "
$\frac{7}{8}$ "	2. "	$2\frac{1}{8}$ "	11.82 "	$3\frac{3}{8}$ "	29.82 "	$4\frac{3}{4}$ "	56. "
1 "	2.61 "	$2\frac{1}{4}$ "	13.25 "	$3\frac{1}{2}$ "	32.07 "	$4\frac{7}{8}$ "	59.06 "
$1\frac{1}{8}$ "	3.31 "	$2\frac{3}{8}$ "	14.76 "	$3\frac{5}{8}$ "	34.40 "	5 "	62.21 "
$1\frac{1}{4}$ "	4.09 "	$2\frac{1}{2}$ "	16.36 "	$3\frac{7}{8}$ "	36.81 "		65.44 "
$1\frac{3}{8}$ "	4.94 "	$2\frac{3}{4}$ "	18.03 "	$3\frac{7}{8}$ "	39.31 "		

To find the weight of cast iron, multiply by $\frac{9.26}{1000}$ or $\frac{1}{14}$, or deduct $\frac{1}{16}$ part.

WE HAVE A FULL STOCK OF
WEDGE AND SHIM STEEL
OF ALL SIZES.

SEND FOR OUR PRICES BEFORE BUYING.

Steel a Specialty.
CHAIN.
Granite Tool
COIL
Norway Iron and
ALSO

Aproximate Weight and Strength of Cordage.

Circum. in inches.	Diameter in inches.	Weight of 1000 feet. in pounds	Weight of 500 feet in pounds.	Weight of of 1,200 feet in pounds.	Weight per fathom in pounds.	No. of feet in a pound.	Strength of new manilla rope in lbs.
$\frac{3}{4}$ in. 6 th'd.	$\frac{1}{4}$	23	12	28	1-7	43	450
1 " 9 "	$\frac{5}{16}$	33	16	40	1-5	30	750
$1\frac{1}{8}$ " 12 "	$\frac{3}{8}$	42	21	50	$\frac{1}{4}$	24	950
$1\frac{1}{4}$	$\frac{7}{16}$	52	26	62	$\frac{3}{8}$	19	1,200
$1\frac{1}{2}$	$\frac{1}{2}$	73	37	89	9-20	$13\frac{1}{2}$	1,700
$1\frac{3}{4}$	$\frac{9}{16}$	101	50	121	3-5	10	2,300
2	$\frac{5}{8}$	132	66	158	4-5	$7\frac{1}{2}$	3,000
$2\frac{1}{4}$	$\frac{3}{4}$	167	83	200	1	6	3,900
$2\frac{1}{2}$	$\frac{13}{16}$	207	103	250	$1\frac{1}{4}$	5	4,700
$2\frac{3}{4}$	$\frac{7}{8}$	250	125	300	$1\frac{1}{2}$	4	5,700
3	1	297	150	356	1 4-5	$3\frac{1}{8}$	6,750
$3\frac{1}{4}$	1 1-16	349	175	420	2 1-10	$2\frac{7}{8}$	7,900
$3\frac{1}{2}$	$1\frac{1}{8}$	405	202	486	2 9-20	$2\frac{1}{2}$	9,200
$3\frac{3}{4}$	$1\frac{1}{4}$	465	232	558	2 4-5	2 1-6	10,600
4	1 5-16	529	265	635	3 1-6	1 9-10	12,000
$4\frac{1}{4}$	$1\frac{3}{8}$	597	298	716	3 3-5	$1\frac{2}{3}$	13,500
$4\frac{1}{2}$	1 7-16	669	335	802	4	$1\frac{1}{2}$	15,250
$4\frac{3}{4}$	$1\frac{1}{2}$	736	373	895	$4\frac{1}{2}$	$1\frac{1}{8}$	16,900
5	$1\frac{5}{8}$	826	413	992	5	1 1-5	18,750
$5\frac{1}{2}$	$1\frac{3}{4}$	1,000	500	1,200	6	1	22,700
6	$1\frac{7}{8}$	1,190	595	1,428	7 1-7	<small>Inches</small> 10 9 3-10	27,000
$6\frac{1}{4}$	2	1,291	645	1,549	$7\frac{3}{4}$	8 3-5	29,300
$6\frac{1}{2}$	$2\frac{1}{8}$	1,397	698	1,677	$8\frac{3}{8}$	7 2-5	31,600
7	$2\frac{1}{4}$	1,620	810	1,944	$9\frac{3}{4}$	$6\frac{1}{2}$	36,750
$7\frac{1}{2}$	$2\frac{3}{8}$	1,860	930	2,232	11 1-6	$5\frac{2}{3}$	42,200
8	2 9-16	2,116	1,058	2,539	12 7-10	5	48,000
$8\frac{1}{2}$	$2\frac{3}{4}$	2,388	1,194	2,866	$14\frac{1}{3}$	$4\frac{1}{2}$	54,200
9	$2\frac{7}{8}$	2,678	1,339	3,214	16 1-16	4	60,700
$9\frac{1}{2}$	3	2,983	1,492	3,580	17 9-10	$3\frac{5}{8}$	67,700
10	3 3-16	3,306	1,653	3,967	19 5-6		75,000

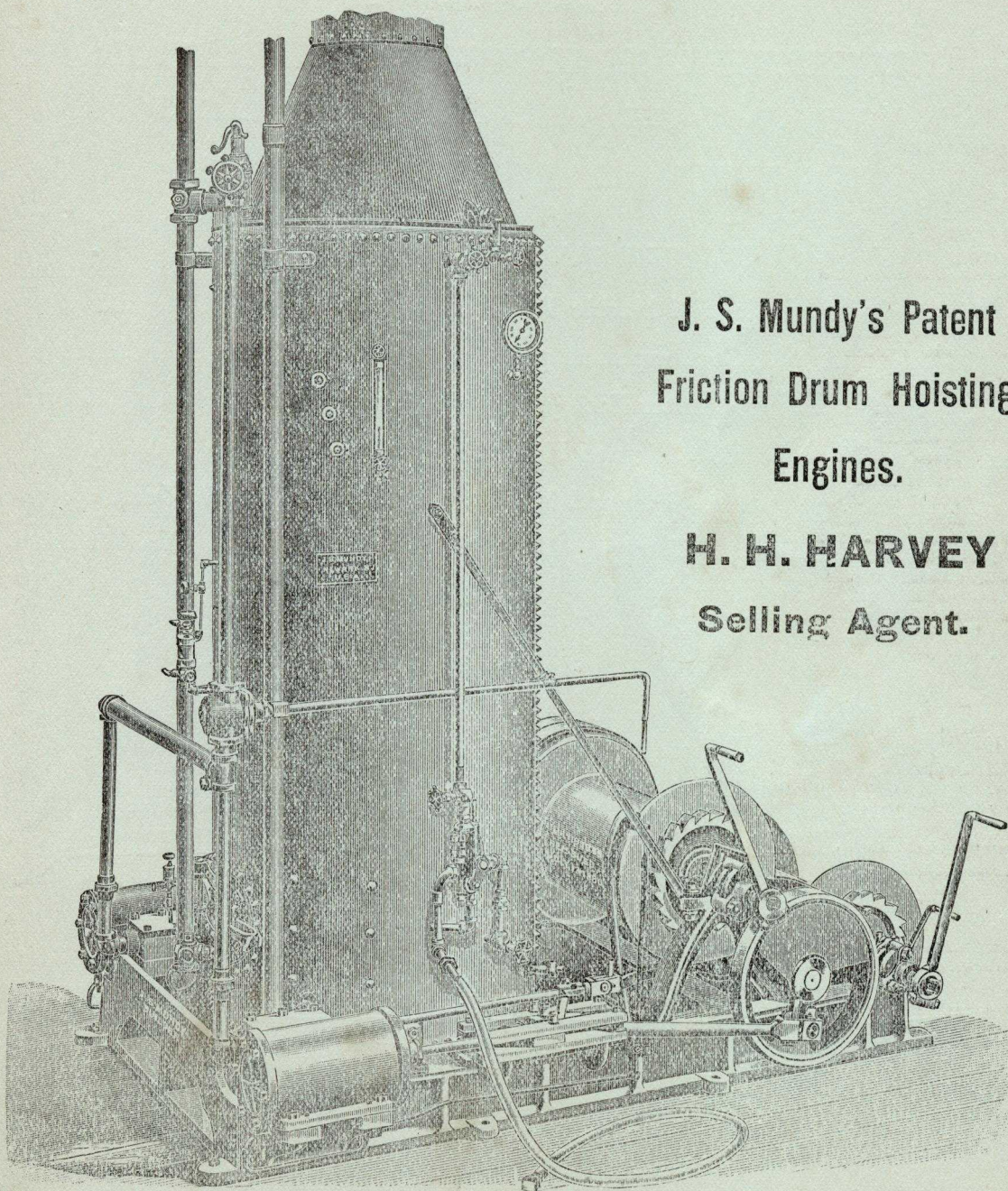
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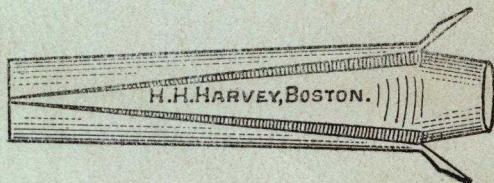
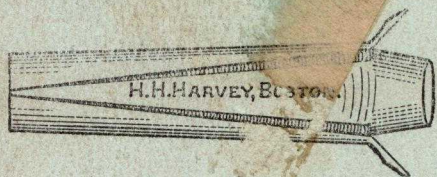
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